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ABSTRACT

This report presents an analysis of data on student trends in higher education (HE) in the United Kingdom for the Committee of Vice Chancellors and Principals (CVCP) of UK universities. It is based on research including a review of the literature, interviews in a sample of 14 universities to investigate individual institutional trends, consultations with policy and professional bodies on student participation and demand for graduates; and an assessment of likely future changes in student numbers over the next decade. Among findings highlighted are: (1) a 54 percent increase in the number of students between 1989 and 1994; (2) underrepresentation of women in science and engineering, of students from low socioeconomic backgrounds, of some ethnic groups, and of students with a disability; (3) increased diversity in HE institutions as demonstrated by growth of the further education sector and greater regional focus of many institutions; (4) an ambiguous picture of employers' demands for graduates; (5) wide support from employers and educational and professional bodies for expansion of student intake; and an increasing demand for higher education by a more diverse population. (Contains approximately 200 references.) (CK)

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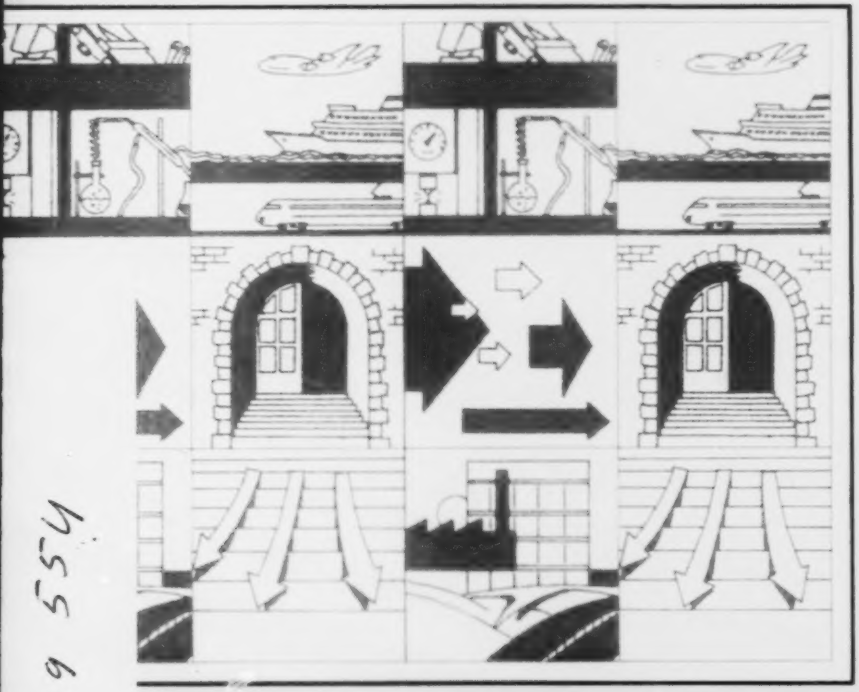
UNIVERSITY CHALLENGE: STUDENT CHOICES IN THE 21st CENTURY

A report to the CVCP

H Connor, R Pearson,
G Court, N Jagger



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Contents

Executive Summary ix

1. Introduction 1

1.1 Background 1
1.2 Aims, scope and methodology 2
1.3 Report structure 4

2. Recent Trends in Higher Education 5

2.1 UK trends in higher education 5
2.2 Key influences on growth 17
2.3 International comparisons 18
2.4 Summary 22

3. A Current Student Profile 23

3.1 Overview 23
3.2 Subject studied 25
3.3 Entry qualifications of first degree students 28
3.4 Age profiles 29
3.5 Ethnicity 29
3.6 Social class by age group 31
3.7 Disability 32
3.8 Summary 33

4. The Changing University 35

4.1 New students, new demands 35
4.2 Institutional student profiles 36
4.3 Missions and objectives 38
4.4 New developments 39
4.5 Typology 49
4.6 Constraints on future growth 51
4.7 Summary 52

5. Labour Market Trends 53

5.1 Recent labour market trends 53
5.2 Future prospects 60
5.3 Summary 64

6. The Policy Dimension 65

6.1 Employer representative bodies 65
6.2 Higher education 66

6.3 Professional bodies 67
6.4 Other bodies 68
6.5 UK Government 68
6.6 International comparisons of higher education policy 73
6.7 Summary 75

7. Student Demand for Higher Education 76

7.1 Demand trends 76
7.2 Factors affecting future student demand 80
7.3 Future scenarios 93
7.4 Full-time first degree entrants 95
7.5 Other entrants 99
7.6 Overall student numbers 100
7.9 Summary 101

Bibliography 103

Executive Summary

This report is about future student numbers and the challenges for universities as they move into the 21st century. It presents the findings of a research study commissioned from the Institute for Employment Studies (IES) by the Committee of Vice-Chancellors and Principals of UK Universities (CVCP). Its overall purpose was to review and analyse the evidence about student trends in higher education (HE), and thus help to inform CVCP in the formulation of its long-term strategy towards the development of higher education.

The research was undertaken between June 1995 and March 1996. It included a review and analysis of the available data and research literature; interviews in a sample of 14 universities to investigate individual institutional trends; consultations with a wide range of policy and professional bodies on student participation and demand for graduates; and an assessment of likely future changes in student numbers over the next decade.

Past student trends

Recent growth

Higher education in the UK has recently been through a period of unprecedented change and growth. There are now over 1.6 million students in some 115 universities plus 68 higher education colleges. This represents more than a doubling of student numbers over the last 25 years.

Student numbers have not grown consistently over time nor evenly across the sector. Overall, British universities grew in size by 54 per cent between 1988/89 and 1993/94 compared with only 15 per cent over the previous five year period. Between 1988/89 and 1993/94, growth occurred at all levels and in all parts of the sector, but it was particularly marked among:

- full-time students (up by 66 per cent)
- students in post-1992 universities and HE colleges (up by 63 per cent)
- postgraduate students (up by 76 per cent), and especially part-time postgraduates (up by 98 per cent)

- full-time undergraduate students aged 21 or over at entry (more than doubled)
- international students on first degrees at post-1992 universities and HE colleges (up by 154 per cent but from a very small base)
- students studying certain subjects at undergraduate level (*eg* subjects allied to medicine, and information sciences more than doubled).

Other areas of recent change have been the growth in non-'A' level qualified entry to full-time undergraduate courses and entry via the further education (FE) sector, an increasing tendency for students to remain within their geographical region or stay at home to study at HE level, and a doubling of the HE participation rate among young people since the late 19080s.

Growth in the representation of women has slowed since 1988 and has levelled off in the past year or so at 49 per cent across the sector (but there are wide variations on this figure by subject — see below — and mode of study). There remains a significant bias in favour of the higher social classes on full-time undergraduate courses.

International trends

The general trend towards expansion has been mirrored in many other European and advanced countries, and influenced by many of the same factors as in the UK, including increased student demand, wider access policies and increased attainment levels among young people. International comparisons need to be treated with caution, but the available comparative data show that, in terms of numbers graduating, the UK compares favourably with many other countries.

Current student profile

The key features of the current student profile in the UK illustrate its diversity:

- Almost two-thirds of the 1.5 million HE students registered in HE institutions in December 1994 were taking first degrees.
- Almost 30 per cent of total students were studying part time, but only 16 per cent of first degree students compared with 57 per cent of taught postgraduate students.
- Women were still considerably under-represented in certain subjects, in particular engineering (under 20 per cent are female), computer science and physical sciences (both under 40 per cent).

- **Less than a quarter of full-time, but two-thirds of part-time, degree students entered with qualifications other than 'A' levels or Highers.**
- Thirty-eight per cent of all students were aged over 25 years; among first degree students, this applied to only 25 per cent but to 82 per cent of all part-time students.
- Ethnic minorities accounted for an estimated 12.4 per cent of the home student population in December 1994. In aggregate, ethnic minorities are well represented in HE relative to their position in the population for the relevant age groups. Representation varies considerably, however, by individual ethnic group (*eg* Indians, Black-Caribbean), subject of degree study and between individual universities.
- Over 60 per cent of home entrants to full-time degree courses in 1994 were from social classes I and II, whereas these social classes account for only 37 per cent of the economically active population. Older students tend to have a broader social class profile: half of the full-time degree entrants aged 25 years and over were from social classes III to V.
- Four per cent of students, for whom relevant data were available, were reported as having a disability.
- International students comprised about ten per cent of the total students in HE (six per cent from non-EU countries), but they accounted for 21 per cent of postgraduate students.

The aggregate figures on student trends mask considerable variation between institutions, both in terms of overall size and student composition. In particular, the postgraduate population is very unevenly distributed across the sector, especially the research population which is concentrated in a relatively small number of universities. While non-traditional students (older, studying part time, with entry qualifications other than 'A' levels) are increasing their representation overall, the main focus of a number of universities remains on traditional entrants (young people with 'A' levels/Highers).

The changing university

The twin trends of growth and diversity have brought new challenges for universities. All have sought to grow in size, but some have grown faster and have had to make more changes than others to achieve growth targets.

Expansion has not simply been about increasing entry numbers. It has been about finding ways to increase the participation of different groups while safeguarding standards of quality within a context of reduced funding. Different clusters of universities can clearly be identified in a spectrum ranging from relative continuity through to rapid change. For some, their main strategy on student numbers has been to widen access and offer more student choice and flexibility, which has met with varying degrees of success. Others have remained in their traditional 'A' level market but have faced more competition for the most able students. Some universities have developed a clearer sense of direction and identity than others. Many have been reacting largely to external events.

The future is likely to be increased diversity at an institutional level. Many universities will become more regionally focused and develop an even wider range of provision and delivery mechanisms. In this way they can attract a broadening intake of students and compete effectively with other local institutions. On the other hand, some may choose to become more specialised, and a few are likely to continue substantially as at present, offering their traditional product to the same kind of traditional student entry group, but operating in an increasingly competitive environment.

Many universities lack information on their student trends and tend to base planning assumptions on rather crude estimates of market size and growth in demand, particularly in the case of non-traditional students and for part-time study. There is a need to improve internal information systems, develop better marketing strategies, and have more openness and clarity about their individual roles and identities, if change within institutions is to be managed better.

Labour market demand

Recent trends

In the last few years, graduate demand has picked up but labour market trends are also becoming more diversified and complex. Newly qualified graduates are being absorbed by the labour market at an increasing rate but are taking a wider range of jobs, and sometimes displacing non-graduates. There is evidence of under-utilisation of graduates, at least initially, but this varies between sectors and employers. Smaller firms play a more significant role in graduate recruitment than in the past and there is a long term shift away from manufacturing to the services sector. Much less is known about recruitment patterns and demand trends among the new graduate recruiters, than those which have traditionally dominated graduate recruitment, *ie* large companies with graduate entry schemes.

The unemployment rate of newly qualified graduates (*ie* percentage unemployed and seeking work six months after graduation) is currently at around nine per cent. This is lower than in the early 1990s as expansion in graduate output coincided with economic recession, but double the rate for the late 1980s. However, unemployment among graduates in the labour force (as against newly qualified graduates) is only four

per cent compared with over nine per cent for non-graduates. Thus, despite the recent influx of new supply and relatively slow economic growth there appears to be a clear labour market advantage in having an HE qualification.

An issue of concern to employers is the quality of the current output of graduates, in particular their lack of personal and general transferable skills (*eg* communication, teamworking). This, rather than any numerical deficit, is thought to be a factor behind reports from employers of graduate recruitment difficulties. There is also evidence of employers focusing graduate recruitment activities on particular universities, mainly the pre-1992 ones and those with high academic reputations, which may be to the disadvantage of the non-traditional graduates (*ie* without 'A' levels, older) who tend to be under-represented there.

Future outlook

Economic and employment projections show a continuing increase in demand in the UK economy for higher level skills and in employment at higher occupation levels. However, because of a projected increasing supply also, there is likely to be a continuation of the excess of supply over demand for newly qualified graduates. This is unlikely to lead to large scale graduate unemployment because of the displacement trends outlined above, but may affect the extent to which the pay and career expectations of current students are met. At the individual organisation level and among professional bodies, there is considerable variation and uncertainty about future growth in graduate demand.

Future expansion

There is wide support for continued expansion and broadening of the intake to higher education, on the grounds that it has social and economic benefits to the country. Calls for further transformation of HE from a relatively elite to a mass system come from many quarters.

Employer representative bodies cite economic arguments for expansion, and the benefits of a highly skilled workforce to the UK's international competitiveness. This is despite there being no clearly proven economic case for producing more graduates and a lack of consistent evidence of growing demand from individual employers. Several bodies make comparisons with expansionary education policies in competitor countries to argue for growth here in the UK.

All parties in higher education give support to expansion of the system (contingent on appropriate levels of funding). They justify this on the grounds of equity and the available pool of ability, as well as the need to widen the social class base of university intakes.

Most professions wish to encourage a continued growth in initial undergraduate education. Some, however, have concerns about the effects of over-supply in specific vocational areas and on standards if further widening of access continues. Continuing professional development (CPD) is seen as a potential growth area for universities, but assessments by the professions of likely future demand are not yet developed.

The government currently favours a policy of consolidation of the previous expansion for the time being. HE is likely to become embedded more into the national education and training system so that new policy developments (*eg* NVQs/GNVQs, Targets, lifelong learning) will have more relevance to HE in the future. In the longer term, government policy on HE will be affected by the recently set up National Committee of Inquiry into Higher Education (chaired by Sir Ron Dearing).

Future student demand

Applications

The last decade's rapid growth in student demand for higher education may be beginning to slow down, although it is difficult to discern long-term trends because of a lack of consistent trend data for the new unified HE system; in particular data on part-time study is not available centrally.

At an institutional level, there is a variety of patterns with some experiencing weaker demand than others, especially in certain subjects (*eg* engineering, built environment) but stronger in other subjects (*eg* psychology, media studies), and others experiencing variation from year to year. There are few universities with consistently downward or consistently upward overall trends in application levels.

Influences on demand

A number of interrelated factors influence student demand for places in HE: some relate to wider demographic and social trends, others reflect policy changes in education, both nationally and at an institutional level, *eg* wider access, more flexible modes of study, new qualifications and courses (especially GNVQs).

One of the key factors influencing future demand for full-time degree study, though not necessarily other levels/modes, will continue to be demography, and linked to that, social class. There will be a rise in the number of young people from 1996 after a decade when they declined by a third, but a projected fall in 21 to 30 year olds in the population. The number of over-30 year olds will also increase, which will help to boost demand for lifelong learning, but from a very small base.

As outlined above, the higher social classes continue to dominate full-time degree entry, and thus higher education as a whole. If this continues to be the case, as seems likely in the short term at least, then the demand for higher education is likely to increase simply because of the increasing social class profile of the total population. A limiting factor, however, is the rising proportion of young people in lower social classes which may lead to lower and different patterns of participation, *eg* later entry, more with GNVQs and more entering from the further education sector.

A related factor influencing student demand is education attainment levels. Rising school staying-on rates, increasing attainment levels, and the introduction of NVQs and GNVQs have all had an impact on increasing the number of people qualified to enter higher education, though there are substantial regional differences. A number of developments (*eg* recent proposals on 16 to 18 year old qualifications), may raise levels further. Other contextual factors include trends in the labour market which can provide positive or negative signals about graduate opportunities and rates of return (especially at a subject level) and public perceptions about the cost of higher education. Here the evidence is inconclusive, both from research done in the UK and from overseas (*eg* USA, Australia). Another contextual influence is the government's education and training targets which are likely to have an encouraging overall influence on demand.

Future scenarios

Some of the many factors which determine student demand, such as demographic and social class changes, were incorporated into a modelling exercise to assess future trends in student numbers. Others such as the possible impact of changes to funding or the nature of 'A' levels could not be. In the event, data limitations meant that the prime focus of the modelling exercise had to be on UK full-time entrants to first degree courses (currently the largest single group within HE with over 700,000 students).

On the basis of past trends, assumptions about likely future changes and the availability of relevant data, the following changes are indicated:

- **UK full-time degree entrants:** The *base projection*, which assumes no funding or capacity constraints, and does not take account of any external 'shocks' (*eg* possible introduction of fees, major change to economic conditions) is that the effects of demographic and social class structural trends mean that the number of home first degree UK entrants would rise from 276,000 in 1994 to a plateau of around 346,000 between 1999 and 2003, with a rise again to around 358,000 in 2005 — an increase of around 5 per cent on average to around 2000, and around a 25 per cent increase over the period to 2003. This compares with a growth of approximately 70 per cent over the last decade. This base projection was found not to be exceptionally sensitive to likely developments affecting the participation of particular groups (*eg* changing educational routes, gender balance). The principal variable is the increasing number of 18 year olds and within that the numbers of 18 year olds from the higher social classes.

- **Other full-time entrants:** In addition, there are almost 200,000 entrants each year to other full-time study, including international students and UK students on other undergraduate and postgraduate study. A number of factors influence their numbers, including domestic demographic change, fees and the relative attractiveness of UK higher education to international students, the perceived rates of return to postgraduate study and the strategies of individual universities — many of whom have targeted these groups in recent years. Unfortunately, good enough data were not available to make numerical projections. Growth among these groups has been particularly rapid over the last five years. While this rate of growth is not expected to continue, even a more modest growth rate could add a further 50,000 or more entrants of this type.
- **Part-time entrants:** Of the 200,000 students entering part-time study in 1994, about one-third were at postgraduate level. There has been particularly rapid growth at postgraduate level in recent years, less so at undergraduate level. Again, a number of factors are likely to influence future demand, but data were not good enough for projections. Even if growth continues at a slower pace than in the recent past, it could boost part-time entrants by a further 50,000 or more. Both here, and in the case of other full-time entrants, the actual numbers will be critically dependent on the strategies and initiatives of individual universities.

Overall, there could be significant expansion over the next decade of UK student numbers in full-time first degree study, based on future student demand, albeit at a slower rate than in the previous decade. Other types of students (*eg* other undergraduates, postgraduates, international students, part-timers), are also likely to grow in number and some will undoubtedly do so at a faster rate than the UK full-time degree student group. In doing so, the additional students from these sources could easily exceed the projected growth in full-time first degree UK students, particularly at some universities. Unfortunately, there are inadequate data about these 'other students' to make sensible projections of their numbers into the future. The precise level and pattern will be determined by a combination of factors, some within and some outside the control of individual universities.

Conclusions

In the future, universities are going to have to respond more effectively to the changing demands of students and society. To be successful, they are likely to have to develop more distinctive and differentiated roles to attract different groups of students and meet their distinctive needs. As a consequence, singular sectorally applied solutions or policies are likely to be less effective than in the past when the system was less diversified.

All the available evidence suggests a continued growth in demand from students for HE from within the UK and from overseas, and at different levels and modes. However, overall growth is likely to be slower than in the recent past, in particular at full-time first degree level. It is likely to come from a more diverse population. It is also likely to be more volatile than in the past, be more fragmented — *eg* geographically, by subject, level, mode of study — and be influenced by a multiplicity of factors, including funding, access policies, labour market signals and wider educational policies. Messages from the labour market about growth in demand for graduates are more ambiguous: while job prospects for graduates are likely to increase they are not likely to do so at a fast enough rate to meet traditional aspirations. Graduates will have to take up a wider range of jobs, many at lower than historic salary levels.

The research has provided a considerable amount of information on student trends and their influences. It was constrained, however, in several areas by the quality of data available, both centrally and at an institutional level. In particular, breaks in time series and inconsistencies in data collection by the different organisations involved caused difficulties in drawing firm conclusions. While significant improvements are taking place, there are still difficulties in analysing data on students in HE because of changing definitions and boundaries. These include: the FE/HE interface; more diverse learning and delivery methods (*eg* distinguishing between part-time/full-time study; distance learning) and inputs/outputs (entry routes, transfers, wastage). Finally, there is also a need to understand more about the international scene, including the likely future level of demand from non-UK students and their participation at UK universities.

1. Introduction

This is a report about student numbers in higher education prepared for the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom (CVCP) as part of its programme to support and guide its longer term strategy work. It is based on research undertaken by the Institute for Employment Studies (IES) between June 1995 and March 1996.

1.1 Background

Higher education (HE) has recently gone through a period of unprecedented change, when growth in demand has exceeded expectations and the sector has grown to accommodate a broader range of students with differing needs. After 20 years of almost uninterrupted growth, the early 1980s saw retrenchment partly as a consequence of anticipated demographic decline and also due to cutbacks in Government funding. A new era of growth began again in the late 1980s. Despite concerns about constraints in student demand, expansion has been faster than forecast for the 1990s (Pearson *et al.*, 1989). This has been partly due to Government policy relating to targets for participation rates of young people and commitments to improving the skills base of the workforce, but also to the development of wider access policies and broader, more flexible provision by individual universities.

The sector has recently entered another period of consolidation, with the capping of first degree full-time student entrants in 1994 and greater university funding constraints. There are uncertainties about sufficient student demand to meet continued expansion, as well as about demand for graduates from the labour market. Although graduate unemployment has declined from its height point in the early 1990s, it still remains a concern and there are widespread difficulties for graduates in obtaining appropriate jobs.

Higher education appears to be at yet another crossroads in its development. The changes ahead and future challenges for universities may be greater than those experienced in the last 30 years. There are fundamental issues being debated about diversity, future growth, demand, quality standards and funding. In order to guide future policy development, the Department for Education and Employment (DfEE) has announced a National

Committee of Inquiry into Higher Education (the Dearing Committee) to make recommendations about how the shape, structure, size and funding should develop to meet the needs of the UK over the next 20 years (DfEE, February, 1996).

1.2 Aims, scope and methodology

The CVCP commissioned this research project so that it could help make a contribution to the future debate on HE from a sound information base about likely future trends in student numbers and demand.

The overall aim of the research was to assess the current and expected changes in student demand for higher education over the next decade, taking account of:

- how the HE system is changing
- expectations and needs for future growth
- under-representation in, and the changing composition of, the student population
- influences on demand
- the extent of any imbalances between current levels of participation and those required to meet future needs and expectations.

It was expected that the research should provide robust and reliable information to help the CVCP's work. Various organisations have supported the need for growth in student numbers, and it was important to investigate some of the current assumptions which underlie expansion. In particular, demand for higher education is coming from different categories: students in different circumstances and different stages in their life; employers with a range of needs for highly qualified people; and the growing professions with increasing interest in continuing professional development. The type of higher education being supplied to meet this range of demand varies also, especially between universities. The research addressed this diversity of need and provision. It also sought to provide evidence relating to the CVCP's own stated target for increased participation in HE (40 per cent of young people by 2000).

In order to meet these objectives the project involved five kinds of data and policy analysis:

- an analysis of the current size and composition of the UK student population and recent trends, through a review of the available statistics on higher education covering a range of student characteristics and educational provision
- a review of policy documents and research literature to collate and analyse contextual material on higher education

and training policy, patterns of student demand and expectations and demands from the labour market. This also included a limited review of the international scene, to assess international trends in HE (*eg* in Europe, Australia, USA).

- modelling of student data under a series of future scenarios about participation rates and other changes in student demand
- case studies of universities to provide illustrations of student diversity and changes in demand. A total of 14 visits were made to a wide-ranging sample of universities in Great Britain.
- discussions with a range of organisations — policy bodies, professional bodies, employers and representative groups — to assess the extent of any imbalance in supply and demand.

In addition, interim findings were presented and discussed at the 1995 CVCP meeting in Belfast.

The research built on earlier work undertaken in 1989 by IES for the Council for Industry and Higher Education (*How Many Graduates in the 21st Century? — the Choice is Yours*, Pearson *et al.*). This had been undertaken to assess trends in student demand in the context of demographic downturn and likely constrained future demand. It focused on full-time degree students and was mainly a desk-based exercise. The current research was much broader, covering a wider range of students and provision — all parts of the sector at all levels and subjects. It involved more primary research to explore trends within universities and also views of various organisations which interact with HE. The former was done partly because of the lack of nationally available data on institutional trends, but also to illustrate the extent of diversity and complexity in the sector. Another difference was that it had an improved HE database to draw upon, though difficulties remain in reconciling some data from different sources (*eg* HESA, UCAS), and changes to time series make analysis of trends difficult.

The earlier research (for CIHE) developed a model by which the potential of alternative strategies to boost demand were explored. This was in a context of a fairly stable system where annual growth rates were modest. This modelling technique was used in this study but had to be applied to today's more complex and fast-changing system. This, together with the lack of detailed time series data since the late 1980s, has meant that the modelling exercise has proved to be more limited than expected, and had to give more emphasis to the traditional core of the system, first degree full-time students, than to the newer types of students participating in a variety of ways.

The research was not required to address specifically the funding dimension, as that was part of the remit of separate CVCP work. However, it was impossible not to include aspects of it in the analysis, especially relating to student contributions and the availability of finance to institutions.

1.3 Report structure

The report is divided into seven chapters.

Chapter 2 maps out the main trends in higher education, focusing on the last five years. It identifies the key features of change in the student population.

Chapter 3 presents the current student profile. It looks at a range of characteristics and discusses the extent to which particular groups are over- or under-represented in higher education.

Chapter 4 focuses on the changing university. It draws mainly from the case studies to highlight the extent of diversity in the sector and likely future developments in different parts of the sector.

Chapter 5 provides a labour market perspective. It assesses trends in employer demand and the extent to which there is likely to be an imbalance in the future supply and demand for graduates.

Chapter 6 discusses the policy dimension. It presents evidence form various organisations which support HE expansion bodies, as well as the government's policies relating to HE.

Chapter 7 looks at student demand. It analyses recent trends in applications to higher education and discusses the main influences on student demand. It also presents some future scenarios about student demand based on the modelling exercise.

Appendices which include further details of the research, including data not in this report and the sample of case study institutions is available from IES on request.

2. Recent Trends in Higher Education

This chapter maps out the main trends in the student population. The aim is to provide an overview of broad trends, many of which are quite well known. It therefore documents the recent expansion and changes in the student composition and highlights key issues which will be discussed further in later chapters.

Until recently, when the new Higher Education Statistics Agency (HESA) started collecting student data in a consistent format from all higher education institutions (December 1994), there has not been one comprehensive set of data relating to higher education. Any analysis of trends has to rely on a number of sources, each with slightly different coverage. Furthermore, the new HESA data relating to the 1994/95 academic session are not directly comparable with earlier data from other sources as the definitions used are slightly different.

We have used a number of data sources in this chapter but mainly data provided by the Department for Education and Employment (DfEE) for the decade to 1993/94. This provides the largest coverage and is the most consistent time series that we could obtain. It includes all higher education institutions, not just universities (which is the focus of the other main time series available, the Universities Statistical Record (USR)). However, as it is not directly comparable with the new HESA set of data for 1994/95 we have presented details of the latter in the next chapter to reflect the break in the time series.

2.1 UK trends in higher education

This section briefly highlights key trends in the number of students in the UK.

2.1.1 Overall UK trends

There has been expansion in UK higher education for most of the last 30 years. Using the closest comparative data available, student numbers more than tripled over the last 25 years, from just over 400,000 in 1969/70 to over 1.5 million by 1994/95 (the latter includes the Open University with just over 100,000 students). The largest percentage increase occurred at the postgraduate level, in part-time study in particular, the latter increasing from just 20,000 to 160,000. The number of full-time first degree students has almost quadrupled from just over 200,000 (Court, Jagger and Connor, 1995).

2.1.2 GB trends 1983/84 to 1993/94

It is only possible to look more closely at trends up to 1993/94 for Great Britain only rather than the whole of the UK, because of the problems with time series (see above).

As can be seen from Table 2.1, during the last ten years, the number of students in higher education has expanded at all levels and in all parts of the sector, though the rate of growth

Table 2.1: Key trends in student numbers, 1983/84 to 1993/94, Great Britain (thousands)

	1983/ 84	1988/ 89	1989/ 90	1990/ 91	1991/ 92	1992/ 93	1993/ 94	*% change 1983/84-93/94*	*% change 1988/9-93/94*
Total	**871.3**	**1,003.6**	**1,066.7**	**1,146.1**	**1,267.9**	**1,408.8**	**1,541.3**	***76.90***	***53.58***
Total FT	565.1	626.3	670.4	727.4	822.8	934.2	1,038.4	*83.76*	*65.80*
Total PT	306.2	377.3	396.3	418.7	445.1	474.6	502.9	*64.24*	*33.29*
Pre-1992 universities	402.6	447.4	471.4	499.5	540.7	587	633.9	*57.45*	*41.69*
Post-1992 universities and HE colleges	468.7	556.3	595.2	646.6	727.2	821.8	907.4	*93.60*	*63.11*
Postgraduate	103.4	134.5	145.7	163.6	188.9	213.1	236.9	*129.11*	*76.13*
First degree	502.6	561.1	604.1	655.8	738.3	835.1	929.6	*84.96*	*65.67*
Other undergraduate	265.3	307.9	316.8	326.7	340.7	360.6	374.8	*41.27*	*21.73*
Full time									
Postgraduate	59.6	71.9	75.4	82	94.5	102.4	112.8	*89.26*	*56.88*
First degree	412.1	457.3	494.1	537.5	605.5	687	765.2	*85.68*	*67.33*
Other undergraduate	93.4	97.1	100.9	107.8	122.8	144.8	160.4	*71.73*	*65.19*
Women as % total full time, home students	43.8	46.6	47.5	48	48.3	48.9	49.0	—	—
Undergraduate home full time, first year									
Aged under 21	135.4	141.2	157.8	172.3	197.0	220.9	231.5	*70.97*	*63.95*
21-24	17.0	21.4	23.5	25.9	36.6	46.6	51.0	*200.00*	*138.32*
25+	22.9	30.3	33.3	36.8	47.6	61.1	69.5	*203.49*	*129.37*
% aged 21 and over	22.76	26.8	26.47	26.68	29.94	32.78	34.23	—	—
% aged 25 and over	13.06	72.7	15.52	15.66	16.93	18.59	19.74	—	—
Postgraduate (home, full time, first year)									
% aged 25 and over	37.0	44.0	45.0	47.0	45.0	44.0	43.0	—	—

Source: DfEE unpublished data.

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has varied over time and for different parts of the sector. Overall, the number of students in British higher education institutions increased by 77 per cent between 1983/84 and 1993/94. Growth has been faster in the last five years than in the previous five years (up by 54 per cent compared with 15 per cent) but this was not true for all groups of students.

The increase between 1988/89 and 1993/94 has focused on:

- full-time students (up by 66 per cent)
- and in the post-1992 universities (*ie* the former polytechnics) and colleges (up by 63 per cent).

It was particularly marked among:

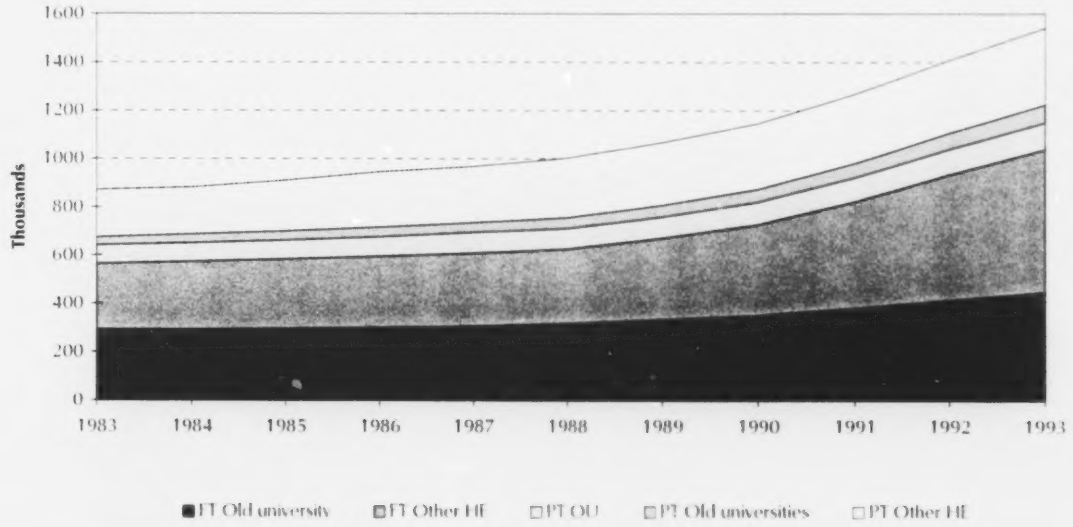
- full-time students in the post-1992 sector (up by 91 per cent)
- and among postgraduates in both sectors (up by 76 per cent), and especially part-time postgraduates (up by 98 per cent).

Overall, the part-time share of total enrolments has fallen from 38 to 33 per cent between 1988/89 and 1993/94, but this decline has been focused on first degree and other undergraduate study.

Growth has also been slower among students on other undergraduate courses (not degrees) and as a consequence they represent a declining share of total enrolments.

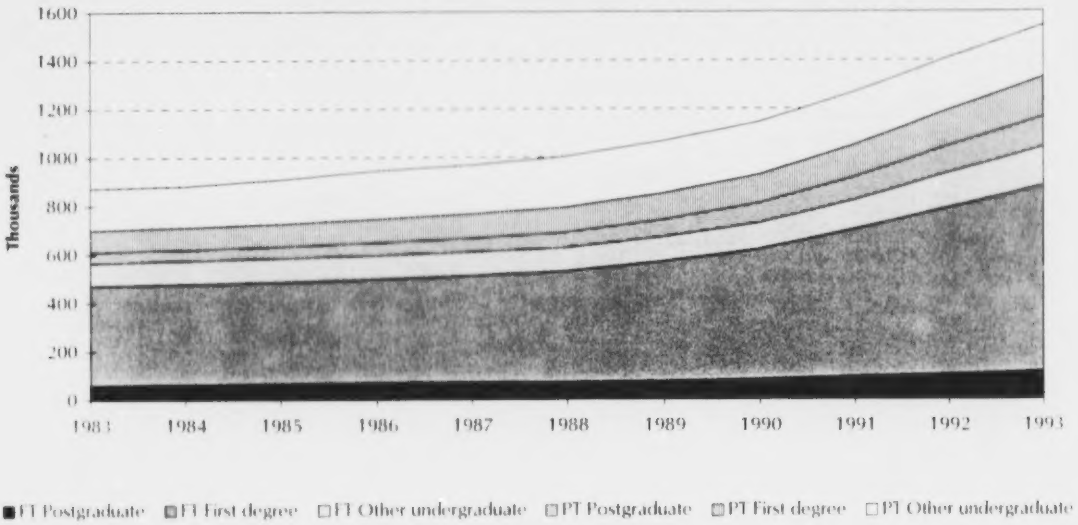
These trends relating to mode of study, type of institution and level are illustrated further in Figures 2.1 and 2.2.

Figure 2.1: Number of students by mode of study and type of institution: GB 1983/4 to 1993/4



Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

Figure 2.2: Number of students by level of course: GB 1983/4 to 1993/4



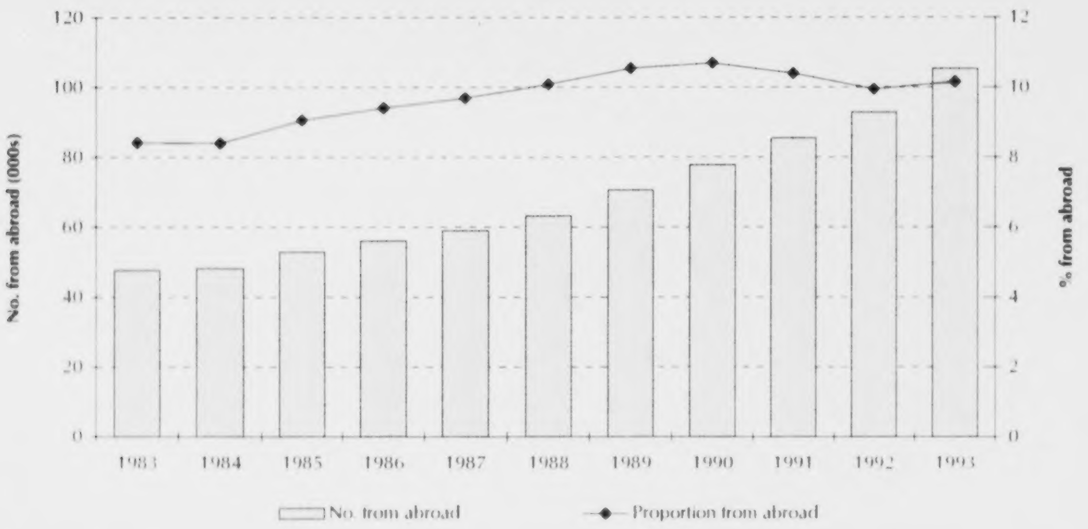
Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

2.1.3 Institutional trends

At an individual institutional level there is considerable diversity in student profiles and different student trends. From the case study visits we found a range of growth rates over the last five years, though few could provide consistent time series data. Two of the pre-1992 universities which did have data available demonstrated that they had almost doubled their proportionately more growth in full-time study. They also showed a reduction in the share of HND students in the total. The main explanation of these trends was a reduction in employer sponsorship of part-time studies during the recession of the early 1990s, and lack of alternative employment opportunities, especially for HND students who went on to degree studies instead, which was also recession-related. The other universities which had recorded an increase in full-time first degree students had specifically set out via their marketing to attract a higher number, for both financial and image reasons.

All of the pre-1992 universities in the sample had very small proportions of part-time undergraduates (generally under five per cent), in contrast to the post-1992 universities where it ranged from between ten and 35 per cent). They had not experienced any significant growth in part-time undergraduates in the last five years, in contrast to part-time postgraduate study (which accounted for most of their part-time students), and especially taught masters courses, where there had been substantial growth in most cases. There was an increasing trend for first degree graduates to go directly on to postgraduate study rather than into jobs.

Figure 2.3: Number and proportion of students from abroad: GB 1983/4 to 1993/4



Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

2.1.4 International students

Overall, in British HE institutions there were 105,000 international students on full-time courses in 1993/94, representing ten per cent of all full-time students. The number had increased by 40 per cent since 1988/89 (63,000), and by 54 per cent since 1983/84 (48,000).

Figure 2.3 charts the change in the number and proportion of international full-time students (including EU students). The overall increase in numbers disguises variation by level and type of institution, with the number at first degree level, in particular in the post-1992 universities and HE colleges, increasing rapidly (by 153 per cent between 1988/89 and 1993/94). The pre-1992 universities which traditionally have attracted a high proportion of international students, however, continue to account for the majority (69 per cent in 1993/94).

The dramatic growth in aggregate numbers of international students is attributable to a combination of supply and demand factors (see Greenaway and Tuck, CVCP, 1995). These include, on the demand side, a reduction in the real cost of fees and the UK's relative price compared with other countries (both relative to the 1980s), an increase in the number of scholarships and an increase in general economic prosperity of the main non-EU consuming countries (*eg* South East Asia). On the supply side, there has been more professional overseas marketing of universities and a number of EU programmes to promote student mobility (*eg* Erasmus). Recently, the increase has been mainly due to the latter. The number of other EU students studying in Britain has increased markedly over the past few years, accounting for 38 per cent of the international student total in 1993/94 compared to 21 per cent in 1988/89. This represents almost 40,000 students from other EU countries.

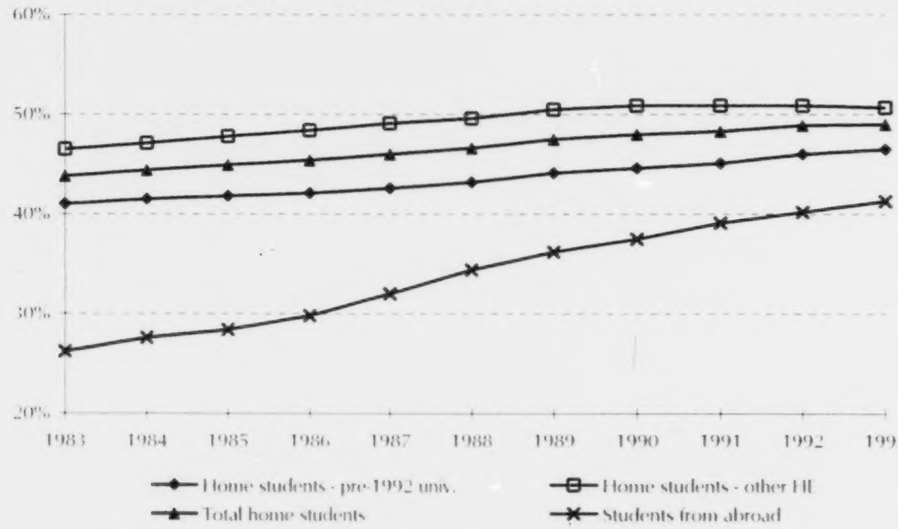
All the universities visited in the case studies had experienced increases in international students in recent years, some much more than others, as might be expected. The main reason for expansion appeared to be financially driven, but also related to the desire to maintain or develop a 'quality' profile, especially those who were actively seeking to significantly expand their research base. Many were building on a variety of different linkages with other countries to create further expansion, including: direct marketing, EU mobility schemes such as Erasmus, joint courses with universities in other EU countries, and specific international research links. While continental Europe had been the main area of growth, South East Asia, Pacific rim countries and South Africa featured also.

2.1.5 Women

Women have steadily increased their representation in higher education over the last 30 years or so, from only 23 per cent of total students in 1960/61 to almost 50 per cent by 1993/94. Growth rates have slowed latterly, however, and there is some evidence to suggest a levelling off in the rise of female students (Figure 2.4). This may only be a temporary cessation as the latest applications data from UCAS for 1996 entry show a slight rise in the proportion of female applicants, though it is unlikely to rise much above 50 per cent in the long term.

One of the marked changes over the past decade has been in the proportion of female international students (rising from 26 per

Figure 2.4: Women as a per cent of full-time students: GB 1983/4 to 1993/4



Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

cent in 1983/84 to 41 per cent in 1993/94). The explanation is not entirely clear, but is probably related to a combination of factors including the rise in EU students (where the gender balance may be more even than in other countries), and the faster rate of growth of international students in the post-1992 universities and HE colleges where women are better represented anyway.

2.1.6 Changing age profiles

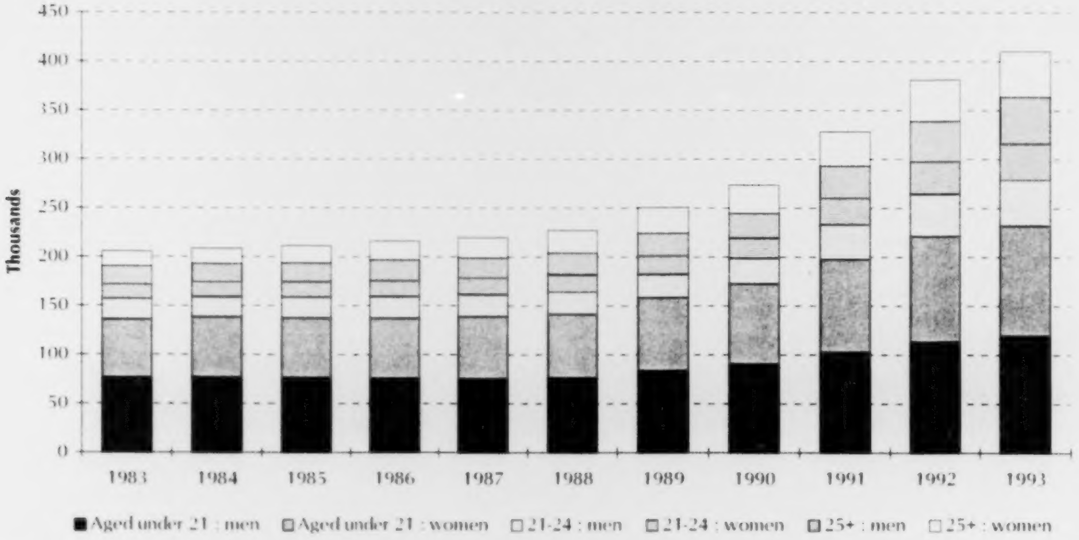
Full-time students

Figure 2.5 shows that while the number of full-time first year students in all age groups has risen, the increase has been proportionately greater among older age groups, in particular those aged 25 and over. The number of women first year, full-time students aged 25 and over doubled between 1988 and 1993, and that for men more than doubled (a rise of 118 per cent). For those aged 21 to 24, the equivalent figures are 109 per cent and 108 per cent. These compare with rises of 73 and 56 per cent for those aged under 21.

Figure 2.6 shows that the increase in the proportion of (all) first year undergraduate students aged 21 and over was particularly rapid in the late 1980s/early 1990s, rising from just over 25 per cent in 1989/90 to nearly 35 per cent by 1993/94.

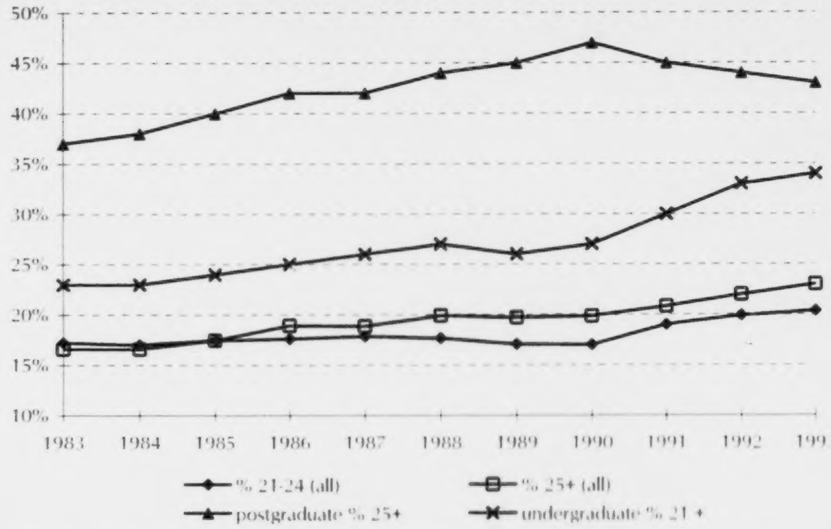
The proportion of first year postgraduate students aged 25 and over has, however, declined (see Figure 2.6). This may reflect the increasing proportion of first degree graduates going immediately on to postgraduate study (aged 21/22) rather than entering the labour market.

Figure 2.5: Number of first year, full-time students by age and sex: GB 1983/4 to 1993/4



Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

Figure 2.6: Proportion of full-time, first year students by age group: GB 1983/4 to 1993/4



Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

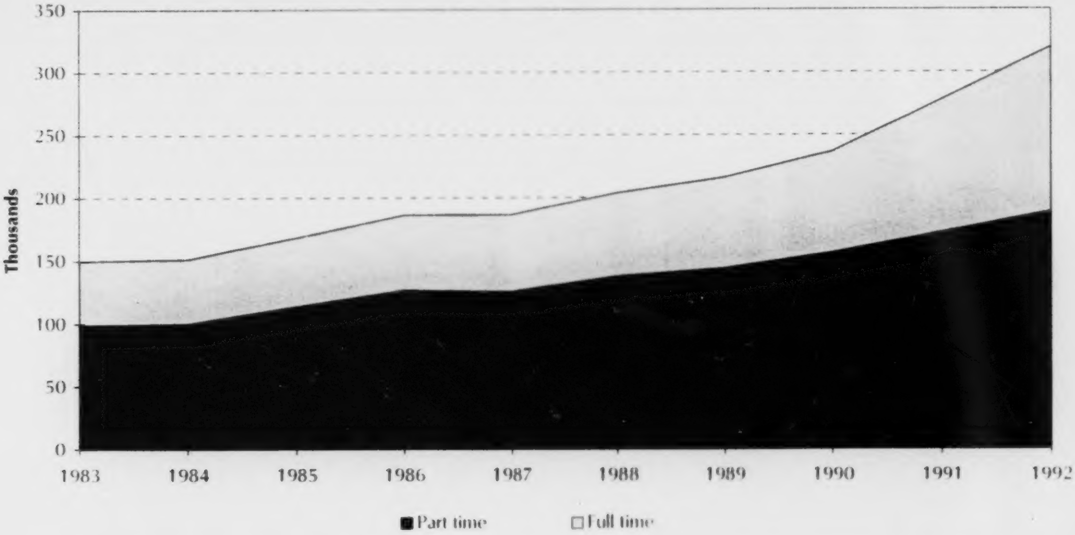
It is worth noting that this ageing of the full-time student profile has occurred within a context of rapidly rising rates of participation in higher education among *young* people, as highlighted in section 2.2.

Part-time students

The data presented above relate only to full-time students and as the majority of part-time students have traditionally been mature (*ie* aged 21 years and over at undergraduate entry and 25 years and over at postgraduate entry) this means that the bulk of mature students are not captured in the analysis. As Figure 2.7 shows, the balance between full-time and part-time study for mature students has been changing, especially since 1990/91, when growth among mature full-time students began to take off. Between 1987/88 and 1991/92, the number of mature full-time students grew by 112 per cent compared to an equivalent growth of 51 per cent for part-time study.

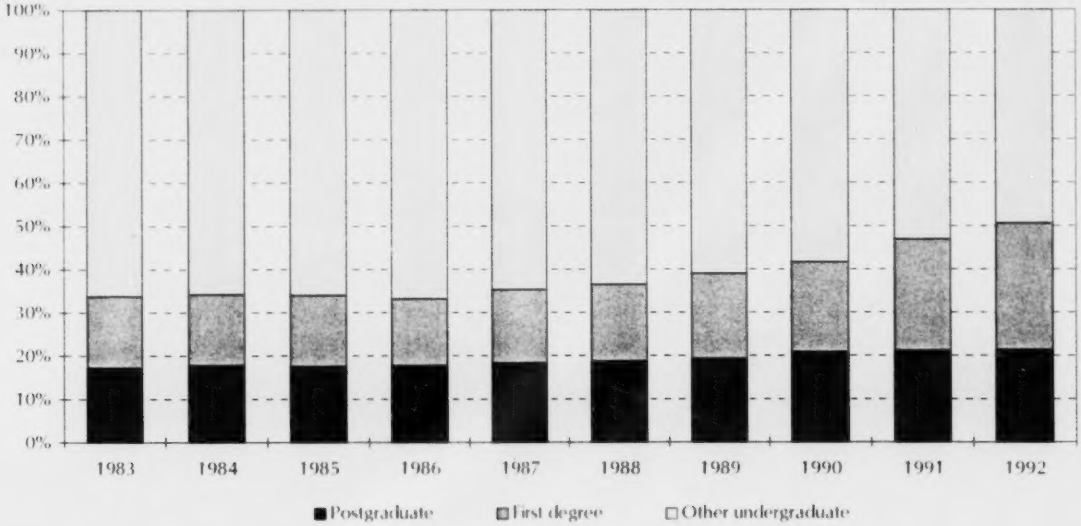
This shift in the pattern of mature student participation is partly due to their increasing participation on first degree and, to a lesser extent, postgraduate courses, with a corresponding decline in the proportion on other undergraduate (sub-degree) courses (Figure 2.8), where there has been slower growth overall (see section 2.1.1 above). It is also due to policies of widening access to full-time degree study which has enabled more students with non-traditional qualifications to enter a wider range of institutions (see section 3.3)

Figure 2.7: Number of mature students in higher education GB 1983/4 to 1992/3



Source: DfE, 1994 (dates refer to the academic year, ie 1992 refers to the 1992/93 academic year).

Figure 2.8: Mature students by level of study GB 1983/4 to 1993/4



Source: DfE, 1994 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

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Table 2.2: Accepted applicants (UCCA) and admissions (PCAS) to first degree courses by ethnic group (per cent)

	UCCA				PCAS			
	1989/90	1990/91	1991/2	1992/3	1989/90	1990/91	1991/2	1992/3
Total white	92.2	91.7	91.6	91.5	85.7	85.6	86.3	86.1
Total black	1.0	1.3	1.3	1.4	3.8	4.0	4.6	4.2
Asian Indian	2.7	2.6	2.5	2.6	4.7	4.5	4.0	4.1
Asian Bangladeshi/ Pakistani	1.3	1.4	1.4	1.5	2.5	2.4	1.8	2.4
Total Asian Other	1.6	1.8	2.0	2.0	1.9	1.8	1.8	1.9
Other	1.2	1.2	1.2	1.1	1.3	1.6	1.5	1.3

Source: PCAS and UCAS Statistical Supplements various years

2.1.7 Ethnic group

Historic data on all students by ethnic group are not available in a time series. There is, however, limited information on applicants to full-time study via the former UCCA and PCAS for 1989/90 to 1992/93 entry (Table 2.2). This shows that the proportion of students admitted to full-time (and sandwich) degree courses who are from minority ethnic groups has remained static over the period, at between eight and nine per cent in the pre-1992 universities and 14 per cent in the post-1992 universities. This means that during that period the actual number of ethnic minority students had been increasing at about the same rate as the student population as a whole.

Since 1993, admissions data have been collected by UCAS for the new unified HE system. Unfortunately, there are no continuing time series for the pre-1992 and post-1992 university sectors. Few universities until now have done any systematic ethnic monitoring and no trend data were available at any of the case study universities. At some of them, however, staff felt that their proportion of ethnic minorities was gradually increasing.

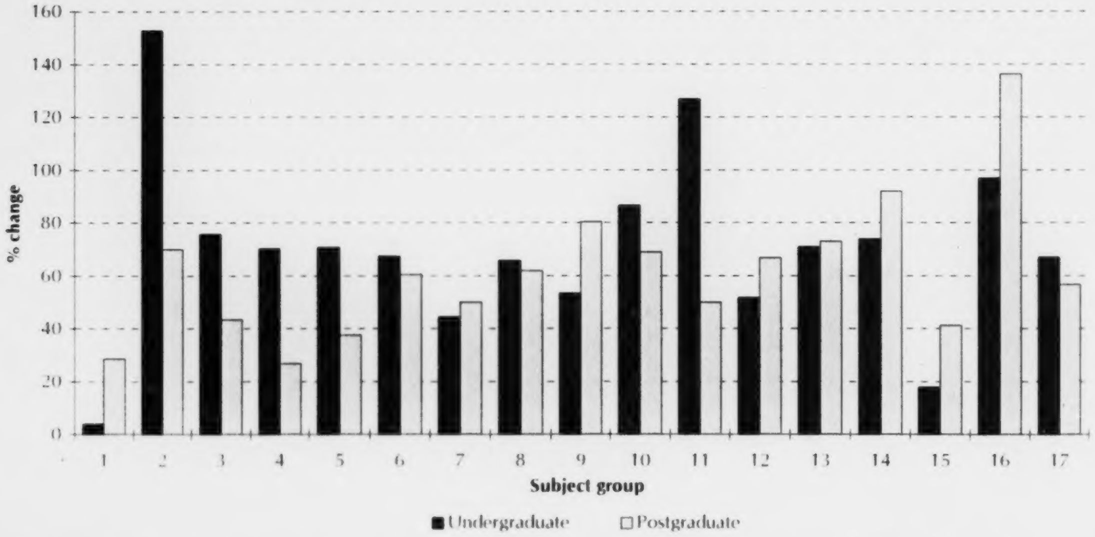
UCAS data, however, do show that admissions to full-time degree courses from ethnic minorities have been increasing in recent years, albeit slowly and not evenly between ethnic minority groups, from 10.6 per cent in 1993 to 13.0 per cent (provisional) for 1995 entry.

2.1.8 Subject studied

Figure 2.9 shows the increase in the number of full-time students at undergraduate and postgraduate level by subject between 1988/89 and 1993/94.

Among undergraduates, the most rapid rises have been in subjects allied to medicine (including nursing), information science, multidisciplinary subjects, and business and financial

Figure 2.9: Per cent change in postgraduate and undergraduate students by subject GB 1983/4 to 1993/4



1 Medicine and dentistry; 2 Subjects allied to medicine; 3 Biological sciences; 4 Veterinary sciences *etc.*; 5 Physical sciences; 6 Mathematics and computing; 7 Engineering and technology; 8 Architecture, building *etc.*; 9 Social sciences; 10 Business and financial studies; 11 Information sciences; 12 Languages; 13 Humanities; 14 Creative arts and design; 15 Education; 16 Multidisciplinary; 17 Total

Source: DfEE unpublished data 1995 (dates refer to the academic year, ie 1993 refers to the 1993/4 academic year).

studies. A striking feature of most of these discipline groups is their generally vocational orientation. This trend may intensify as the number of individuals entering higher education with vocational qualifications increases, and the recent integration of nursing and other vocational colleges into some universities.

Among postgraduates, apart from multidisciplinary studies, a different trend is noticeable, with creative arts, design, and social science recording the largest increases in enrolment.

For both groups, relatively low rises in the number of students on engineering and technology, education and medicine/ dentistry courses are recorded. Overall, the proportion of students taking engineering science courses has declined, and the subjects with a growing share of total students are multidisciplinary (although some of these will be science based) and non-science based.

2.1.9 Entry qualifications

The proportion of entrants to full-time first degree courses with qualifications other than 'A' levels has been rising slowly overall: in 1991, 22 per cent of entrants via UCCA and PCAS had qualifications other than 'A' levels or Highers, compared with 28 per cent in 1994 (via UCAS). BTEC qualifications used to form by far the largest single group but more recently there has been a growth in Access course qualifications. These changes are linked to the higher proportion of entrants who are adults, the growth of vocational qualifications, and entry from the FE sector. GNVQs represent a negligible proportion of current entry to degree studies at most universities but are expected to increase markedly over the next few years as take-up of GNVQ courses expands among young and older students.

2.1.10 Regional trends

There are two geographical aspects to look at here: student trends by region or country of university, and by domicile (*ie* student geographical mobility).

English and Welsh universities as a whole have grown slightly faster than those in Scotland or Northern Ireland over the last five years but the distribution of the total student UK student population has changed very little. As shown in the next chapter the student profiles of the different countries are slightly different, and so their overall population trends are likely to be slightly different. Also, it has not been possible (within this overall scope of this study) to investigate separate country trends in detail.

There is a trend for more students to stay at home and attend their local universities than in the past, or at least not travel as far to university as they used to do (*nb* this does not apply to Scotland where the majority of students have traditionally stayed at home as the norm). There is some limited evidence from UCCA and PCAS which supports this: in 1993, 42.2 per cent of entrants to university full-time degrees stayed in their own region compared to 40.5 per cent in 1992. The proportion staying in their own region was highest in Scotland (over 70 per cent) and lowest in East Anglia (under 20 per cent), but an increasing trend was recorded for all regions.

The case studies highlighted the increasing importance being given by many universities to their localities as catchment areas, in particular the post-1992 universities. Many of these have traditionally attracted locally based students. For example, at one university (in London), 90 per cent of students came from an area of half an hour travelling distance. At some pre-1992 universities, the vast majority came from within their wider region (50 to 100 miles). No data were available at the universities, however, which systematically monitored past trends, and there were some exceptions to the general trend towards a more regional focus. For example, one pre-1992 university had actively encouraged growth from outside its region, mainly to safeguard standards of quality, and this had increased to more than 50 per cent of the total undergraduate intake.

2.2 Key influences on growth

The increasing number of students has come about as a result of a number of factors as highlighted above, the main ones being:

- policies of expansion, more and bigger universities, and
- increased participation rates in the population.

Total funding for teaching in higher education increased in real terms (but not *per capita*) by 45 per cent between 1988/89 and 1993/94. An additional 41 colleges and polytechnics became universities in 1992, but most of them were already included within the higher education sector prior to then. There have been various organisational changes which have included universities (both pre- and post-1992 universities) expanding via mergers with other colleges in their localities (*eg* colleges of education, art and design, nursing) and partnerships with further education colleges. It is difficult to obtain an accurate assessment of the overlap between HE and FE institutions[1] but it was estimated that just over one in ten UK students in 1994/95 were receiving higher education at a further education college location, mainly on a part-time basis (HESA, 1994).

The participation rate for young people (API)[2] has increased dramatically in the last five years, from 15 per cent in 1988/89 to 30 per cent in 1993/94 (GB). In Scotland and Northern Ireland, the API has traditionally been higher and has increased to 38 and 36 per cent respectively. The participation rates of young mature and older mature people have also risen, from six to ten per cent for the former and 0.3 to 0.7 per cent for the latter (for full-time study only, GB). Furthermore, it is estimated that almost all those achieving two or more 'A' level passes or more went on to higher education in 1993/94 compared to less than 80 per cent in the late 1980s (Smithers and Robinson, 1994). New ladders for people without formal qualifications, in the form of access courses, have been developed which has meant an increase in participation here too, but no trend data are available.

The expansion has opened up higher education to a much wider spectrum of the population but not to the same extent in all universities and not at all levels or subjects. As shown later (see Chapter 4) change has been uneven across the sector. Entry to some of the universities in the pre-1992 sector is still very much focused on young 'A' level or Higher students while others (mainly, but not all of, the post-1992 universities) showing much greater change. Most universities have grown substantially in the last five years, but growth has varied. Institutional size varies from under 10,000 students to almost 30,000.

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[1] This is the subject of current CVCP research at IES.

[2] The number of initial entrants to higher education aged under 21 years, expressed as a percentage of the average number of 18 and 19 year olds in the population.

The expansion in higher education has taken place, latterly, within a constrained funding environment. The unit public funding for higher education in the UK has declined since the late 1980s, with 1993/94 funding levels at just 77 per cent of those in 1989/90 and further reductions in the pipeline. Reductions have been achieved through improvements in provision and better use being made of facilities ('efficiency gains') but there have also been some negative consequences on the quality of the student experience (CVCP, 1995c). These include rising student to staff ratios (from 11:1 in 1987/88 to 16:1 in 1993/94), shortages of library and teaching space, and backlogs in new building work and maintenance. It seems reasonable to assume that this cannot continue without further changes in the delivery of teaching or teaching methods (*eg* more at-a-distance, more student-centred learning).

2.3 International comparisons

2.3.1 Overall trends

The general trend towards expansion in higher education has been common to many European and other advanced countries. In the late 1980s, the 'new entrant rate'[1] increased in all but one of the OECD countries for which data are available (the exception being the Netherlands: DfEE, 1989 and 1995b). Making international comparisons is notoriously difficult because of differences in educational systems and data definitions. Below are some illustrative examples which show the varying magnitudes of change.

France. The university population has increased from 980,000 in 1987 to a current total of 1.4 million, and two million is forecast by the end of the century. If all higher education is included, then the two million mark has already been reached. This increase has been prompted by two trends: French Government policy (see Chapter 6 for further discussion) and parental influence — discouraging children to enter technological or professional training at the end of the second year of secondary education and their preference for the academic track (Bloch, 1996). There has been a substantial rise in Baccalaureates (broadly equivalent to 'A' level): the numbers taking it have increased by 16 per cent between 1990 and 1993 alone, and the proportion with Baccalaureates who were continuing in studies increased from 86 to 93 per cent between 1983 and 1988 (Epiphane, Hallier and Sigot, 1994).

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[1] New entrants to higher education are defined as all new entrants (excluding postgraduates and those already qualified in higher education irrespective of age) as a proportion of the age-group of the population.

Spain. The number of HE students increased by 23 per cent from 1987/88 to reach 1.2 million by 1991/92 (Consejo de Universidades, 1994). The high drop-out rate in Spain means, however, that the numbers graduating are relatively low, varying from 23 per cent in advanced technical schools to 44 per cent in universities (Casanueva de Luis, 1992).

Germany. In Germany, a total of almost 1.2 million students were enrolled in universities in 1991 plus a further 390,000 in Fachhochschulen (FSH or professional colleges). The number of university students represents an increase of 50 per cent over the 1980 figure. This growth has occurred despite an expected decline in new enrolments due to a demographic downturn in the number of young people. Instead, a growing number of young people are obtaining the Abitur, the qualification required for entry to higher education, up from 18 per cent of secondary school leavers in 1975 to almost 34 per cent by 1991. In addition, over 50 per cent of today's parents want their children to gain an Abitur, which suggests a continued upward growth. Not all students, however, enter directly from the Abitur — there is a growing tendency for students enrolling in university programmes to have already completed a three to four year school-based vocational education programme or apprenticeship (a third currently do so). In conjunction with an increase in duration of study at university, this has meant a rising mean age of graduation — currently about 29 years for those gaining their first university degree (which in Germany is at Masters level).

Norway. Up to 1987, expansion took place in the non-university HE sector, as short-term vocationally orientated HE was given priority by government. Since 1988, however, student numbers in the university sector have grown by more than 50 per cent.

Australia and New Zealand. Both countries have experienced increases in tertiary education as government policy sought to increase participation rates. The New Zealand universities increased in size (FTE students) by 57 per cent over the last five years, and now have a student population of almost 200,000. The Australian system grew by 37 per cent and has a current student population of 576,000 (McInnis, 1996). Almost half of the 36 Australian universities have only been established since 1987. Growth peaked in 1992 in Australia, when class sizes and resources became a problem. Recently, most of the growth has come from students extending their studies into Honours or postgraduate studies and not as previously from unmet student demand.

USA. Enrolments in higher education have been expanding consistently since the 1960s, although growth has been slower since 1980. In 1991, a record total of over 14 million students was reached, up by 17 per cent on the 1980 figure. Expansion has been largely driven by student demand, itself being a reflection of the recognised labour market advantages of higher education qualifications.

2.3.2 Entry and graduation rates

The entry rate to higher education (defined slightly differently from the 'new entrant rate on page 20, as the number of new entrants to full-time public and private university education per 100 persons in the theoretical starting age group) varies between countries, as shown in Table 2.3. (*Nb* care needs to be taken in interpreting comparative data on higher education as systems vary considerably). Denmark, Italy, Spain and the Netherlands

Table 2.3: Entry to and graduation from university level education, 1992 selected OECD countries and EU diploma award rate, 1990/91 (per cent)

	Entry rate to university education	Graduation rate: Bachelors	Graduation rate: Masters	Diploma award rate (EU only)
Canada	–	32.2	4.8	
United States	–	27.4	9.1	
Australia	38.3	26.3	–	
Japan	25.2	23.4	1.6	
New Zealand	24.9	18.0	7.3	
Belgium	27.3	–	13.6	41.0
Denmark	41.5	22.1	7.9	30.0
France	30.6	–	14.5	39.0
Germany	35.3	–	13.0	23.0
Greece	15.9	11.8	0.1	18.0
Ireland	22.1	17.4	3.5	44.0
Italy	41.3	0.7	9.8	11.0
Netherlands	40.1	17.8	8.6	27.0
Spain	43.3	8.0	21.1	20.0
UK	26.6	20.4	7.2	41.0
Austria	27.9	–	7.9	
Norway	19.8	19.4	6.4	
Sweden	14.7	11.4	–	
Switzerland	15.2	–	8.0	
OECD/EU average	*28.2*	*13.3*	*7.4*	*26.0*

Some care needs to be taken in interpreting these data as higher education systems vary considerably from country to country, variation of which a standardised approach such as the one above can only take limited account.

Source: OECD, 1995; Eurostat, 1995.

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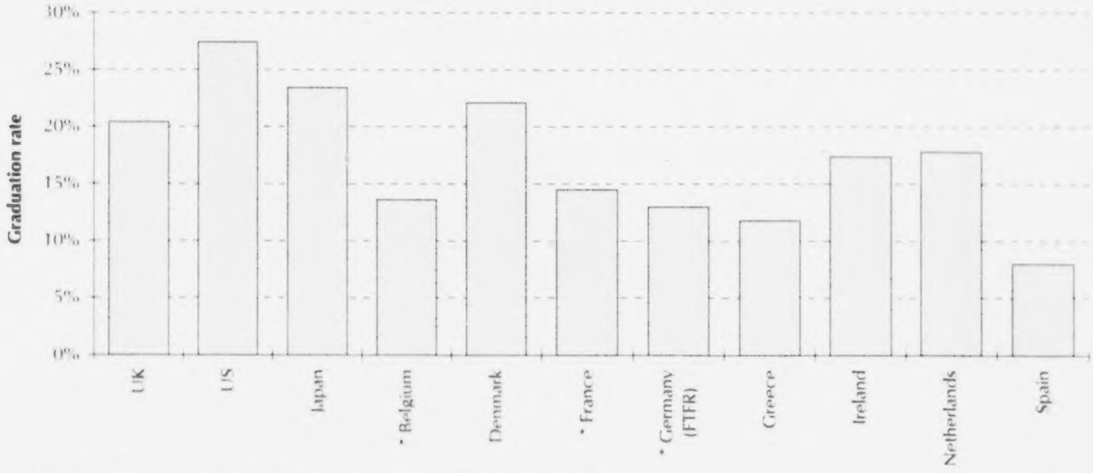
have the highest entry rates, with over two fifths of young people entering university education. Using this definition, the UK was just below the OECD countries' average, at 27 per cent in 1992, slightly above Japan and New Zealand, considerably above Greece and Switzerland, but below Australia. France and Germany (all over 30 per cent).

In the UK, growth has been accompanied by relatively low (though possibly rising) drop-out rates. This pattern is not replicated in all countries and so data on graduation rates show a different picture (defined as the number of people graduating with Bachelors degrees, or Masters in some countries where it is the first degree obtained — *eg* Germany — as a proportion of the population corresponding to the typical graduation age). Thus the UK is now among the forefront of nations in terms of graduation rates, at just over 20 per cent (Figure 2.10). This is higher than many other countries (*eg* France at 14.5 per cent, Germany at 13.0 per cent, (both masters level) Ireland 17 per cent, and Spain eight per cent) but lower than the USA (27 per cent), Canada (32 per cent) and Australia (26 per cent). These figures demonstrate that high participation rates do not necessarily translate into high graduation rates, a point worth bearing in mind when goals and targets for participation are being set.

Not all higher education systems are geared mainly or exclusively to degree study. If a slightly wider definition is taken, and all HE diplomas are included, a different pattern emerges. The diploma awards rate is highest in Ireland (44 per cent), Belgium (41 per cent) and the UK (41 per cent). The rate is lowest in Italy (11 per cent), France and Germany.

Figure 2.10: First degree (or equivalent) graduation rates, 1992



Note: Belgium, France and Germany First Degree at the Masters level

Source: OECD, (1995) Education at a Glance, Table R12

2.4 Summary

This chapter has summarised trends in the student population and their characteristics.

Overall, the number of students in British higher education institutions increased by 54 per cent between 1989 and 1994. The increase was particularly marked among certain groups of students and sectors:

- full-time study, particularly at post-1992 universities and HE colleges
- postgraduate students, particularly those taking part-time study
- older undergraduates on full-time degree courses
- undergraduate study in subjects allied to medicine, business and financial studies, information science and multi-disciplinary studies; and postgraduate study in creative art and design, and social sciences.

In comparison, there has been a decline in the proportions of students on other undergraduate courses (sub-degree level) and taking science and engineering courses.

Representation of ethnic groups in the student population did not change much between 1989 and 1992, but has grown slightly since then. Growth in female representation has levelled out at around 50 per cent. More students are entering university with qualifications other than the traditional 'A' levels or Highers. There is likely also to have been a trend for more people to go to university in their home region.

Growth has not taken place evenly between institutions.

Numbers of international students have grown, most markedly in the post-1992 university and college sector, and particularly among female international and other EU students.

The general trend towards expansion in higher education student numbers has been common to many other developed countries. In terms of qualified graduation rates, the UK compares favourably with many other countries.

3. A Current Student Profile

This chapter describes the profile of the current student population in terms of its key characteristics, based mainly on the newly available data from HESA for the 1994/95 academic year. Many of the themes developed in the previous chapter relating to the changing characteristics of students in higher education are discussed further here, but, as mentioned previously, the data are not directly comparable with those from other sources in the past (DfEE, USR, UCAS, UCCA, PCAS, *etc.*) because of their different coverage and definitions used.

The chapter is divided into six main sections:

- subject studied
- entry qualifications
- age profile
- ethnicity
- social class
- disability.

Throughout the analysis the main differences by gender are also highlighted.

3.1 Overview

There were over one and half million students enrolled on higher education courses in UK HE institutions at December 1994, of which:

- 1.15 million were in English institutions (almost 77 per cent)
- 141,000 in Scottish institutions (nine per cent)
- 80,000 in Welsh institutions (five per cent), and
- 34,000 in Northern Ireland (two per cent).

In addition, almost 120,000 students (eight per cent) are enrolled in Open University courses (HESA, 1995).

Table 3.1 provides information on the total student population disaggregated by type and level of qualification and the mode of study followed.

Table 3.1: Type and level of qualification, and mode of study, 1994/95 UK (percentages)

	Other Undergraduate	First Degree	Postgraduate Taught	Postgraduate Research	All
Full-time	49.6	83.6	37.0	50.0	69.8
Part-time	50.3	16.4	57.4	35.7	28.5
Other	0.1	0.0	5.6	14.3	1.7
Base = (100 %)	220,563	992,645	226,395	88,998	1,528,601
% women	53.4	49.9	48.2	35.3	49.3
% all students	14.4	64.9	14.8	5.8	100.0

Source: HESA 1995

The majority (65 per cent) of students are first degree students. Approximately 14 per cent are 'other undergraduates' with a range of qualification aims — mainly HND/HNC, DipHE, and other undergraduate certificates/diplomas including courses being given credit within the institution. The remaining 21 per cent are postgraduates. The latter are divided into those following taught courses (15 per cent) and those undertaking research degrees (six per cent, mainly PhDs).

Other points to emerge from this table and Figure 3.1 include:

- seventy per cent of the student population are studying full-time, *ie* for more than an average of 21 hours a week for more than eighteen weeks of the year[1]
- just under 29 per cent of students are studying part time, *ie* less than or equal to twenty one hours per week for less than nineteen weeks of the year
- distance learning is not identified separately as a mode of study; the Open University students (though identified separately in the statistics) may be full- or part-time
- first degree students are predominately full-time (84 per cent), while the majority of those on taught postgraduate courses (57 per cent) are studying part time. The latter is a reflection of the impact of the more limited public funding available to support postgraduate students as well as the increasing demand for postgraduate study from employees.

The ratio of full-time to part-time students in the total (including the OU) varies between the UK countries. It is highest in Scotland at 5.7, and lowest in Northern Ireland at 2.7; the UK average is 2.5. The proportion of postgraduates is lowest in Wales, at 16 per cent, and highest in Northern Ireland, at 23 per cent; the UK average is 20 per cent.

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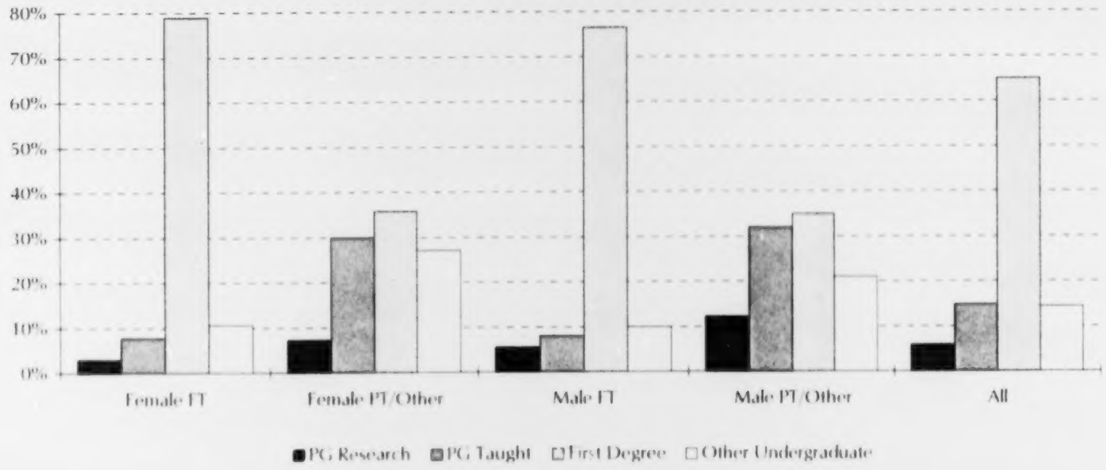
[1] The full-time figures throughout this chapter include sandwich students.

Figure 3.1: Level of qualification and mode of study by gender: 1994/5 UK



Source: HESA 1995

At an aggregate level there is an almost equal balance in the student population by gender. This is also the case for each of the different qualification levels with the exception of postgraduate research students, where women are under-represented (accounting for only 35 per cent of the total).

3.2 Subject studied

Table 3.2 shows the distribution of students by subject for the total population and by level of qualification.

Overall, the highest proportion of students are studying business and administration studies (14 per cent), with combined subjects accounting for the next highest proportion at 12 per cent, and engineering the third highest (nine per cent).

The lowest proportion of students are studying veterinary science, agriculture and related subjects, and librarianship and information science (although there has been a marked increase in the number studying the latter subject since the late 1980s).

The main differences by gender are:

- men tend to dominate engineering and technology, computer science, physical and mathematical sciences
- women are in the majority in subjects allied to medicine, education and languages.

Distributions by qualification level reveal a slightly different pattern:

Table 3.2: Subject of study by level of qualification: 1994/5 UK (percentages)

	Other Undergraduate	First Degree	Postgraduate Taught	Postgraduate Research	All
Medicine and Dentistry	0.1	2.6	1.9	6.6	2.4
Subjects allied to medicine	13.9	4.9	3.6	3.8	5.9
Biological Sciences	1.6	4.9	1.8	10.5	4.3
Veterinary Science	0.0	0.2	0.1	0.5	0.2
Agriculture and related subjects	1.7	0.7	0.5	1.8	0.9
Physical Sciences	1.8	5.2	1.9	13.2	4.7
Mathematical Sciences	0.4	1.5	0.6	2.3	1.3
Computer Science	6.5	4.0	3.5	3.2	4.2
Engineering and Technology	9.8	9.2	5.5	14.5	9.0
All Science and Engineering	**35.8**	**33.2**	**19.4**	**56.4**	**32.9**
Architecture, Building and Planning	3.5	3.1	3.5	1.5	3.1
Social, economic & political studies	5.6	7.8	8.5	8.7	7.7
Law	1.1	3.8	4.6	1.5	3.4
Business and Administrative Studies	23.7	10.1	22.0	3.8	13.5
Librarianship and Information Science	0.5	1.1	1.6	0.4	1.0
Languages	3.7	6.3	2.7	5.6	5.3
Humanities	2.1	3.5	2.2	6.1	3.2
Creative Arts & Design	6.2	5.6	2.5	1.4	5.0
Education	5.3	5.9	23.7	4.3	8.4
Combined	12.0	13.3	8.7	9.8	12.2
Combined cross-modular	0.4	6.3	0.7	0.7	4.3
Base	220,335	992,633	226,395	88,998	1,528,361

Source: HESA 1995

- The subjects accounting for the largest proportions of first degree students are combined studies (13 per cent), business and administrative studies (ten per cent), engineering and technology (nine per cent) and social, economic and political studies (eight per cent).
- Postgraduate research students tend to be concentrated in science and engineering. Men constitute the majority of participants in these disciplines at this level with the exception of subjects allied to medicine.
- Taught postgraduate students are most likely to undertake courses in education, and business and administration studies and least likely to follow science courses. At this level women form the majority of education students and men the majority of those in business studies (70 per cent and 60 per cent respectively).

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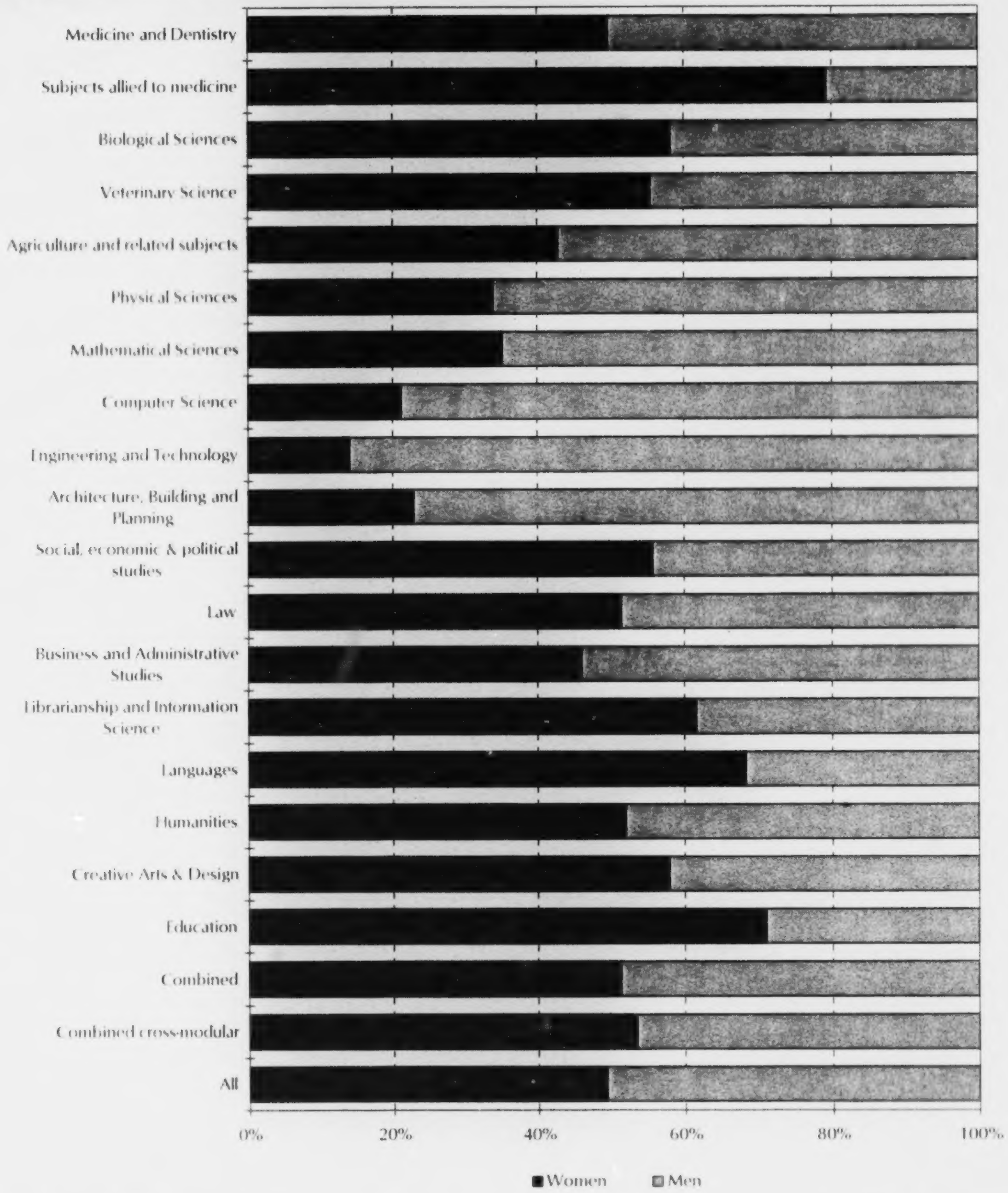
Figure 3.2: Subject of study by gender for total student population: UK 1994/5 (percentages)



Source: HESA 1995

- Among other undergraduate students the main disciplines studied are business and administrative studies (23 per cent), subjects allied to medicine (14 per cent), combined studies (12 per cent) and engineering (ten per cent). A notable feature of these subjects is their vocational nature.

There are some interesting differences between UK countries in their subject provision at undergraduate level.

- **Wales has the lowest proportion of full-time undergraduates studying engineering and technology, 7.8 per cent compared to 10.2 per cent nationally in the UK, but it has the highest proportion on business studies courses: 14.5 per cent, compared to 12 per cent nationally.**
- Medicine and dentistry are more likely to be studied in Scotland and Northern Ireland (in both countries it is taken by over four per cent of students compared to the UK average of 2.8 per cent).
- Less than two per cent of students in Northern Ireland are studying education compared to six per cent in England and eight per cent in Wales (*nb* some teacher training in N.I. is in colleges not included by HESA coverage).

3.3 Entry qualifications of first degree students

Table 3.3 presents information on the entry level qualifications of first degree students. As might be expected, over two thirds of students enter first degree courses with 'A' levels or Highers.

Other qualifications (16 per cent) and other higher education and professional qualifications (11 per cent) account for the majority of the remainder. A higher proportion of women than men enter first degree courses with other qualifications.

There are marked differences between full-time and part-time first degree students in terms of entry qualifications, with a much lower proportion of part-time students entering with 'A' levels or Highers compared to full-time students (32 per cent compared to 77 per cent). Five per cent of part-time students enter with no formal qualifications. Part-time students tend to be older than full-time students (see Table 3.4) and lack of qualifications may have been one of the reasons why they did not enter higher education direct from school.

Table 3.3: Highest entry qualifications of first degree students: 1994/5 UK (percentages)

	All	Women	Men	FT	PT	England	Scotland	Wales	N Ireland
Postgraduate	0.7	0.7	0.8	0.4	1.8	0.8	0.2	0.1	0.1
Graduate & equivalent	2.1	1.9	2.3	0.9	7.1	2.3	1.3	0.7	1.2
Other HE & prof. quals	11.2	9.6	12.8	6.8	29.2	11.3	11.2	8.0	12.5
GCE 'A' level, SCE Highers & equivalent	68.0	68.9	67.0	76.7	32.1	66.2	78.4	75.2	75.1
Other quals.	16.0	16.9	15.0	13.9	24.4	17.1	8.5	15.5	6.5
No quals.	2.1	2.0	2.1	1.3	5.3	2.3	0.3	0.4	4.6
Base=(100 %)	687,951	345,018	342,991	553,762	134,189	575,956	65,445	32,705	13,845

Source: HESA 1995

There are some marked differences across the UK countries. About three-quarters of students at Scottish (78 per cent), Welsh (75 per cent) and Northern Irish (75 per cent) HEIs have Highers or 'A' levels on first degree entry. These figures are about ten per cent higher than the proportion entering English institutions with these qualifications (66 per cent).

Northern Irish institutions have the highest proportion of entrants holding no qualifications (five per cent). This is largely due to the relatively high proportion of part-time students in Northern Ireland entering with no qualifications (40 per cent), two thirds of whom are women.

3.4 Age profiles

Table 3.4 shows the age profile of students in higher education. As might be expected, the proportion of total students in an age band decreases as age increases. More than a third of all students are aged 17 to 20, while only three per cent are aged 50 or over.

The age distribution varies little by gender, but it does vary by mode of study. Part-time students tend to be older than their full-time counterparts, with 62 per cent of part-time students aged 31 or over compared to only ten per cent of full-time students. Students on other undergraduate study also tend to be older than first degree students, with a third aged 31 and over (compared to 17 per cent of first degree students).

The majority (about two-thirds) of postgraduate students are over the age of 25.

3.5 Ethnicity

HESA data on ethnicity cover approximately 77 per cent of the home student population. They show that overall 12.4 per cent of the student population belongs to an ethnic minority group. A

Table 3.4: Age profile of students in higher education: 1994/5 UK (percentages)

	All	Women	Men	Other Undergraduates	First Degree	Postgrad. Taught	Postgrad. Research	Full-time	Part-time
17-20	34.7	35.6	33.7	27.5	47.0	0.6	0.2	48.3	2.8
21-25	28.1	26.6	29.5	26.0	28.1	28.5	32.6	33.6	14.7
26-30	11.8	11.0	12.6	14.0	8.0	21.5	24.1	8.2	19.9
31-40	15.1	15.0	15.2	17.3	10.1	30.2	27.3	7.2	33.8
41-50	7.8	8.9	6.7	9.9	5.0	16.4	12.5	2.4	20.9
50+	2.6	2.8	2.3	5.3	1.8	2.8	3.3	0.4	7.8
Base = (100%)	1,519,990	748,739	771,251	217,550	990,779	222,795	88,866	1,065,090	429,106

Source: HESA 1995

Table 3.5: Proportion of Great Britain domiciled first year students in each ethnic group by age group (comparative 1991 census figures in brackets): 1994/5

Ethnic Group	All Students (all years)	18 to 20 years	21-27 years	28 to 37 years	38 to 47 years	48 years and over
White	87.6	87.8 (92.7)	83.5 (93.1)	86.4 (93.1)	91.8 (94.8)	93.1 (97.3)
Black	3.9	1.7 (1.8)	5.8 (2.1)	7.7 (2.5)	3.7 (1.2)	2.8 (0.9)
Indian	3.1	4.5 (2.0)	3.6 (1.8)	1.4 (1.8)	0.9 (1.8)	1.1 (0.8)
Pakistani	1.5	2.0 (1.4)	2.4 (1.1)	0.6 (0.8)	0.4 (0.7)	0.3 (0.3)
Other Groups	3.9	4.0 (2.1)	4.6 (1.8)	3.9 (1.8)	3.3 (1.5)	2.7 (0.6)
All Groups	*100.0*	*100.0 (100.0)*	*100.0 (100.0)*	*100.0 (100.0)*	*100.0 (100.0)*	*100.0 (100.0)*

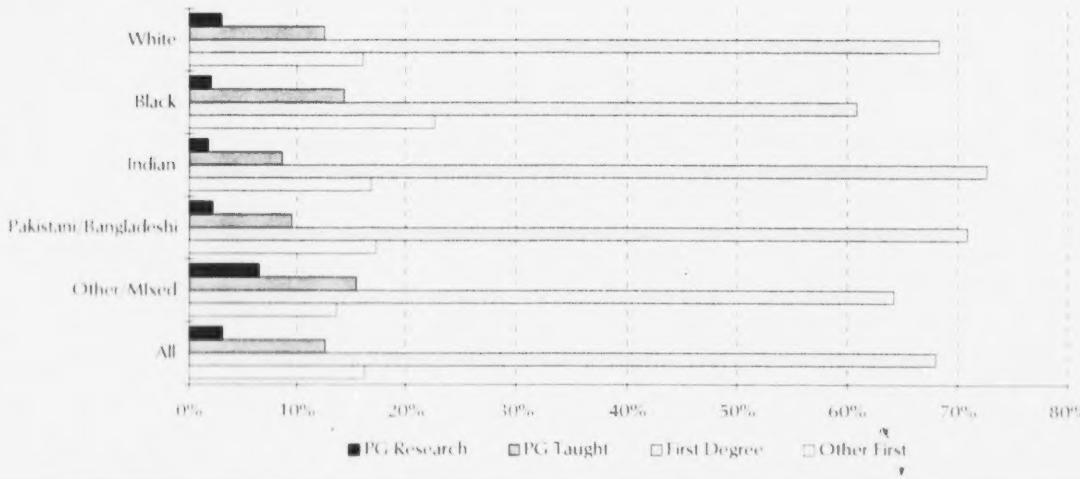
Source: HESA (1995b)

wide range of individual ethnic minorities are included in this aggregate figure, with the largest being Black and Indian.

There are interesting differences by age, with Black students more likely to be represented in the older than younger age groups, while the reverse is true for Indians (Table 3.5). Entry qualifications also vary by ethnic group: over half of white and Asian students enter HE with traditional 'A' level or Higher qualifications, compared with only a third of Black students. The latter are more likely to have entered via access or vocational routes.

Ethnic representation is slightly lower at first degree level (11.3 per cent) than at other undergraduate level (13.5 per cent), and it is even lower among postgraduates (just under ten per cent). Variations by individual ethnic group (see Figure 3.3; for home students only) are:

Figure 3.3: Ethnic group by level of qualification (base= those submitting ethnic group data): 1994/5 UK



Source: HESA 1995

- compared to the other ethnic groups represented, a high proportion of the other/mixed category (including Chinese) are involved in postgraduate research and taught postgraduate courses: six per cent and sixteen per cent respectively
- Indians are more likely than others to be studying at first degree level and least likely to participate in postgraduate study.

There is a link between choice of subject and ethnicity. Subjects with higher than average representation of ethnic groups are medicine and dentistry (mainly Asians), computer science, engineering and technology, social studies, and business/admin. studies.

There is no breakdown available by institution to show the extent to which the ethnic population is unevenly spread across higher education. Earlier analysis of UCCA and PCAS entry data prior to the removal of the binary line (Modood, 1994; Taylor 1993) showed that the proportion of ethnic minorities among entrants to first degrees in the university sector was only half that in the polytechnic/college sector at that time. Recent research by IES (Connor, *et al.*, 1995) shows that ethnic minority students are still concentrated in a small number of universities, some with as many as 30 per cent of undergraduates from ethnic minorities. The distribution is partly the result of the regional concentration of ethnic minority groups in the localities of certain universities (especially London and some other large cities). Perceptions of the culture of some universities are important influences on choice also. Over half of the ethnic minority graduates surveyed in the IES research had chosen their university because of its attitude towards ethnic minorities, though locality was also more important, and more so generally than for white graduates.

On the whole, ethnic minorities are well represented in higher education relative to their position in the population for different age groups. Some ethnic groups, for example Indians aged under 21 years and Blacks aged 21 to 27 years, are particularly well represented (see Table 3.5). By contrast, some small groups such as Bangladeshis, especially Bangladeshi women, are under-represented.

3.6 Social class by age group

HESA data on the social class background of students are not yet available. Partial information on social class of students is available from UCAS but only for entrants to full-time undergraduate courses. These show that the majority (61 per cent) of home full-time first degree entrants in 1994 were from

Table 3.6 Social class of home full-time degree course entrants, 1994, UK (percentages)

	Under 19	19-20	21-24	25 plus	Total	Economically active[3]
I Professional *etc.*	19.1	16.0	13.3	11.2	16.8	5.9
II Intermediate	46.3	43.1	39.7	39.1	44.1	30.6
III N Skilled non-manual	11.9	12.6	13.5	16.0	12.7	22.8
III M Skilled Manual	14.9	17.7	20.5	20.7	16.8	20.7
IV & V Partly Skilled & Unskilled	7.7	10.6	13.0	12.9	9.6	14.5
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Base:	111,858	56,078	18,806	24,878	211,620	

Source: UCAS Annual Report 1993-1994 Entry, Table H2.1

the professional or intermediate social classes[1]. This is despite these two classes representing only 37 per cent of the economically active population[2]. The available data confirm that, despite the expansion in recent years of full-time undergraduate study, students from outside the professional and intermediate social classes are still under-represented in this part of HE.

Older students have a more varied class background, with 47 per cent of entrants aged 21 to 24 coming from social classes III to V compared with 35 per cent of those aged under 19 years (Table 3.6).

3.7 Disability

HESA data on the student population for 1994/95 shows that among individuals for which data are available (about 32 per cent of the total), 3.8 per cent were reported as having a disability. This proportion increased to 4.3 per cent among full-time students which, as HESA note, is contrary to what might be expected (HESA, 1995).

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[1] The social class classification is based on occupations, and uses the Standard Occupational Classification of OPCS mapping on to Social Occupational Classes. If the applicant is under 30 years old, they are asked for the occupation of the parent, step-parent or guardian with the highest income and the social class is based on this person. If the applicant is over 30 they are asked for their own occupation and this is used to derive the social class classification.

[2] Based on the Labour Force Survey — Winter (December 1994 to February 1995). For the majority of entrants parental social class is recorded therefore class composition of the whole economically active population is used.

[3] Based on the December 1994 Labour Force Survey.

Directly comparable data on the population are not available. However, information from the Labour Force Survey (LFS) on individuals with a long standing illness which limits their ability to work, shows that among 18 to 30 year olds, seven per cent reported such a restriction. The LFS data have been used in previous studies to approximate the disabled population (*eg* Honey *et al.*, 1993). If both these sources of data are taken as reliable indicators (and that is not certain), they suggest that disabled students are under-represented in higher education.

The case studies did not provide any further insight into the way disability is recorded or monitored. There seemed to be some confusion about definitions being used. A few universities had taken special initiatives to make their university more 'disabled friendly' but many were constrained in doing more mainly because of physical constraints (*eg* the nature of the buildings) and the costs involved in making adaptations.

3.8 Summary

This chapter has summarised data about the current student population. They show the current extent of diversity in the sector as a whole, in particular the significance of the 'non-conventional' student in the population — *eg* older, without 'A' level entry qualifications, studying part time. They also have shown how differences exist by level of qualification, in particular the difference between the undergraduate and post-graduate populations. Although a considerable amount of student data are now published by HESA, there are still some gaps, especially in tabulating student personal characteristics by region, and in distinguishing between different kinds of students aiming for different qualifications.

The data also show that most groups are well represented in higher education in relation to their position in the relevant population. The main exceptions to this which are apparent from the available data are:

- women in certain subjects, especially some science and engineering subjects, with the exception of medicine, dentistry and allied subjects
- individual ethnic groups, in particular Bangladeshi women, and young Black men
- people from the lower social groups in full-time undergraduate study, especially towards the younger end of the age range
- disabled people (possibly), although insufficient data are available for firm conclusions.

The results from this and the previous chapter's analysis of the student population raise a number of questions about the development of the higher education system and its future size and shape. It seems likely that the student population will continue to grow and diversify. But at what rate? And in what ways?

The extent to which the future will be a continuation of current trends will depend on a number of influences on demand for higher education as well as the way higher education is provided. Institutions have the potential to stimulate demand from certain quarters; other influences are more fixed.

The main changes at an institutional level are discussed in the next chapters.

4. The Changing University

The previous chapters have shown how the student population has expanded and changed over the last decade. This has come about as a consequence of a number of changes from both inside and outside the higher education system. Some of the external changes are discussed further in Chapters 5 and 6. Here, we focus on the relationship between the changing characteristics of the student population and higher education provision, drawing mainly from the university case study component of the research.

This comprised a sample of 14 universities, selected to reflect the wide range of different kinds of universities that now exist in the higher education sector, in terms of student size and composition, stage of development, and breadth and nature of provision, and intended to be illustrative of the kinds of issues affecting different kinds of universities. Information on student trends was sought at each university and interviews conducted with a number of staff and groups of students.

4.1 New students, new demands

It has already been shown how the university student population has become more heterogeneous. It used to comprise mainly young people (the majority of whom were men) going on to take first degrees as a continuation of an educational process that started at five years of age. They were a relatively small group, less than 15 per cent of their age cohort, studying full time, mostly for three years and away from home, with fees paid and maintenance grant support from public funds.

This traditional notion of a higher education student has been gradually changing over the last twenty years or so, as the system expanded to accommodate the post-1960s developments, guided by the Robbins principle:

> *'that courses of higher education should be available for all who are qualified by ability and attainment to pursue (it) and who wish to do so . . . .'*

with the caveat that:

> *'. . . potential students should take their decisions on whether or not to proceed to higher education in the light of expected developments in the labour market.'*

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The trend towards diversity was strengthening by the end of the 1980s, but principally only in the 'new' part of the sector (*ie* post-1992 universities, previously polytechnics and colleges). The main period of growth of new types of students (as discussed in Chapter 2) has been since 1988.

The conventional type of student, 'A' level or Higher school leaver going away from home to study full time, now forms the minority within the higher education sector as a whole, though the majority in many pre-1992 universities.

A number of recent reports (see for example: Robertson, 1994, Schuller (ed.), 1995; McNair, 1993; HEFCE, 1995b; Coffield (ed.), 1995) argue that widening access leads to a more diverse student population with a wider range of needs and aspirations. Mass higher education creates its own demands and the expanded system now in place will need to operate in the future in a different way from the more elite, less differentiated system that went before.

There are various changes that have already taken place within universities which have had an influence on student trends. These include:

- widening access
- developing marketing
- growth in non-professional vocationalism
- more flexible modes of delivery
- giving students more choice
- providing student learning support
- developing partnerships.

These are discussed further below, but first we present evidence on the variety of individual institutional student profiles of the 14 universities in the sample.

4.2 Institutional student profiles

Although there are no longer data available separately for the two groups of universities (*ie* pre-and post-1992), it is generally recognised that most of the 'new' students and 'new' types of provision are concentrated in the post-1992 group. This was clearly illustrated in the case studies, where there were stark contrasts between individual university student profiles. For example:

University A, a large university in the post-1992 group with over 20,000 students, had doubled in size over five years. The student profile was very broadly based: over 80 per cent were aged 21 years or over; 45 per cent were female, 40 per cent were from ethnic minorities and over half had entered with qualifications other than 'A' levels. One in three was studying on a part-time basis. The ratio of undergraduates to postgraduates was almost 80:20. Research activity was small, as was the proportion of international students. It had a traditional focus in the local community and a broad vocational emphasis in provision at degree and sub-degree levels.

While by contrast:

University B, in the pre-1992 group, was also large with almost 17,000 students, but had grown more slowly, up by 50 per cent since 1988. Its undergraduate profile was very traditional: over 90 per cent had 'A' levels or Highers, mostly coming to university straight from school, and taking full-time courses. Almost half were women, but very few were mature or from ethnic minorities. The ratio of undergraduates to postgraduates was approximately 75:25, and there was a significant international profile, especially at postgraduate level. This was a very popular university, with a very high academic entry requirement.

and yet another contrast:

University C, a post-1992 university, was similar in size to the other two examples above at over 20,000, but growth had been modest (up by 20 per cent since 1991). Its profile was more traditional than University A and had more similarities to University B: 80 per cent of students had entered with 'A' levels or Highers, half were aged under 21 years, less than ten per cent were from an ethnic minority group, and only ten per cent were taking part-time degree study. The ratio of undergraduates to postgraduates was 85:15. However, only two per cent were international students. This was also a very popular university, but with a more regional than local focus.

It was disappointing to find that most of the universities had little useful and consistent data available about student trends. This meant that most views expressed were perceptions about trends rather than based on statistical evidence. On the whole, most thought there had been little change of any significance over the last five years, but more of a continuation of past trends. Older students, women and non-'A' level entry were the main areas of growth identified, though not in all universities.

This view from the individual universities about student trends seems to be contradictory to the overall sectoral evidence (see section 4.1 above) which showed a trend towards increasing diversity of the student body in the last five years. It may be that most universities are not becoming more diverse in themselves, but that there have been faster rates of growth at those universities which already had a degree of diversity in their student populations (in particular the post-1992 group — see section 2.2), thus producing an overall trend of increasing diversity for the sector as a whole. Certainly, the case studies highlighted the differences between individual universities which the overall sectoral statistics mask. It would be interesting to undertake further analysis at an institutional or sub-sectoral level, to understand more about the pattern of growth and process of change across the sector. The current student national data sets (from HESA) are made available at an aggregate level only so it is impossible to undertake such analysis from this source.

4.3 Missions and objectives

All the universities shared a common set of broad, fairly traditional educational values, *eg* academic rigour, scholarship, developing ideas, *etc.* and stressed the importance of providing quality in their standards of teaching and research activities (but within a 'cost-effective environment') in their mission statements and strategic plans. They also all offered a broad-based curriculum at degree level. There was no evidence that some universities might be focusing on a narrower curriculum as a way of meeting demand in a more competitive system, as some organisations suggest may develop (Royal Society, 1993). Rather the reverse, all the universities had been adding to existing provision rather than reducing it. This had been facilitated by mergers with other monotechnic organisations, *eg* colleges of health, education, art and design. In general, there were no signs of retrenchment, but there were a few isolated examples of likely future cutbacks, such as in the case of one university which might close part of its engineering department because of a lack of student demand.

The main differences between the universities lay in the emphasis put on specific objectives and plans such as widening access, giving students more choice, innovative learning systems, quality standards, research, local communities and employers, internationalism and student support. This demonstrated how they were positioning themselves in the market to meet the demands of the changing student population. One university, for example, had taken a strategic decision to focus on adults in its local area because of difficulties competing with other local universities for young 'A' level school leavers, and was developing a range of community links and access programmes. It also was committed to fully modularising degree structures. By contrast, another university gave very little attention to the specific needs of adult students at undergraduate level because it had very few of them and expected little change in this respect. It was, however, giving more attention to internationalism by strengthening its links with the overseas market and enlarging its research base, partly for quality and partly for financial reasons.

To some extent, contrasts of this kind were to be expected. There have always been differences between universities, especially across the old binary divide and within the pre-1992 group where an implicit ranking system has always existed. However, the contrasts were found to be greater than we expected.

4.4 New developments

As mentioned above, in order to grow (and continue to do so), universities have developed different strategies to attract sufficient students and fulfil their objectives. Some were taking in more of the same, others were seeking to attract new types of students, and some were doing both. It should be noted, however, that given the present very uneven distribution of some types of students across the sector (*eg* mature students, ethnic minorities), the impact of some of these developments on individual universities varied, both overall and at different levels or areas within them.

4.4.1 Developing access

Most universities have developed a range of access routes for non-standard students (*ie* without the usual 'A', levels or Highers). Their success in effectively stimulating demand and broadening intakes, however, appeared to vary considerably.

At some, especially the more academically selective institutions, access links with colleges were few, development activity low and very small numbers admitted, while at others 'access' was a significant entry route. In the latter, links with other colleges had been developed as an important way of ensuring an adequate flow of students. (This is discussed further in section 4.4.5 on partnerships). These were all post-1992 universities which had strong roots in their local communities and very flexible admission policies. At one university, 20 per cent of undergraduates were entering with no formal qualifications, the majority from access courses. There was another example, however, of a case study university which had extensive access links (*eg* 30 Access centres) but received only five per cent of total applications from this route, and admitted less than 100 students per year, concentrated on only a few degree programmes. The main explanation seemed to be the overall popularity of the university with conventional ('A' level, young) applicants which squeezed out others.

Access agreements were being developed with and without 'guarantees' at an individual university level or in regional university/college consortia. In some cases, students were guaranteed a place at the university (or at one of a group of universities in access consortium programmes) subject to successful completion of course and college references. There were emerging concerns about 'exclusivity' with the guaranteed schemes when organised around a single university, and the lack of choice that gave to individual students.

The main constraint on the further development of access seemed to be the attitudes of university staff rather than any lack of demand from students. This included concerns about safeguarding their position in league tables on 'A' level points, teaching mixed groups with different qualification backgrounds, and the additional learning support that access students often needed without additional resources being made available.

At some of the universities with growing numbers of access students there were emerging concerns from staff about the universities' policies relating to admitting students without academic or vocational qualifications, and striking the right balance between this group and those with traditional entry qualifications. These were related in turn to concerns about quality standards (perceived internally and in the outside world), completion rates, and the consequence for the university's position in performance tables and quality assessment by Funding Councils.

There was a clear tension at some universities between the need to grow numbers while at the same time safeguard academic standards and retain the commitment to students on choice and flexibility. For example, at several universities it was evident that access policies were being applied in a fairly discriminatory way — at one, the non-conventional student could have less choice because she/he had more chance of getting a place on less popular degree programmes, while at another, only certain courses (*ie* those not articulated closely to 'A' levels) were prepared to accept access students because a certain level of prior subject knowledge was assumed. A few universities with previously very open admission policies had recently tightened them up and were rejecting more students who did not appear to have the academic or financial resources to complete the course. One university, for example, had recently introduced an admissions test to over-21 year olds without qualifications in order to improve the decision making process.

There is a case for undertaking more research in this area, in particular on the effect of different policies on student choice and participation, and updating earlier work on admissions processes (*eg* Fulton and Ellwood, 1988).

Another initiative to stimulate student demand was Compact schemes. These are often linked to access courses at colleges but also cover schools. The objective is to ring-fence the local catchment area by encouraging university applicants to apply to the university in question, and make it their first choice. The university then 'guarantees' a place, subject to students achieving the required 'points'. It is usually operated alongside other careers events (open days, school visits *etc.*). A few of the more traditional universities were targeting specific schools in more deprived areas where application levels were low.

Some universities were running quite large schemes with 50 or more Compact agreements. They were generally satisfied about the response, in terms of the number of agreements reached with schools and individuals, but less so with the initial outcomes. Although no statistics on admissions were made available, there was a general sense of disappointment that comparatively small numbers had come through this route despite putting into the initiative a considerable amount of effort and resources.

4.4.2 Vocationalism

Some of the strongest growth at both undergraduate and postgraduate level has been vocational in orientation (see section 2.1.8). Growth in vocationalism is not new: it has featured strongly in the expansion of the technological universities (ex-CATs) and polytechnics since the 1960s, and there are many disciplines in higher education: *eg* medicine, engineering, business, education, which have a long history of vocationalism. The difference now is that it has spread beyond the traditional professional areas and it forms a growing part of the provision at most universities. This has happened partly in response to increasing student demand — some of the most popular subjects recently have been vocational, *eg* business and financial studies, and health studies. It is also partly due to the demand that all higher education should have more relevance to the world of work (eg HEFCE, 1995a, AGR, 1995b, CIHE, 1995). As discussed later in Chapter 5, industry expects that higher education will broaden in content and become more related to the working world.

The importance of vocationalism can be seen in a variety of ways at undergraduate and postgraduate study. A few examples are listed below:

Enterprise

The *Enterprise in Higher Education* initiative (funded by DfEE) was designed to develop more work-relevant skills in students. This has been a five year programme at 60 institutions. While its impact has been high, both within individual subjects and for the students involved, there is less evidence about its success in making substantial and sustainable change across institutions. Most of the universities in our sample had used Enterprise funds to develop in students a greater awareness of the world of work and help them in career planning. Some had made substantial progress within the curriculum, but it was often seen as a marginal activity and not a serious part of their core business.

Work-based learning

Work-based learning (WBL) programmes have been developed at many universities, often with the support of the DfEE. The case study universities had embraced work-based learning but in different ways. It mainly included full-time or sandwich undergraduates engaged on work placements or projects linked to work, and in some cases it provided academic credit towards degrees. There was no fully fledged work-based learning degree in place at any of them (but there are some examples elsewhere). Accreditation for WBL has been a difficult area, not least because it has raised some fundamental issues for staff about the approach to and existing practices of accreditation within their university (*DfEE, 1996*).

Demand for work experience is likely to increase, as the benefits become more widely accepted, in particular in improving student employment prospects. However, some universities in our sample were experiencing increasing difficulties in obtaining work placements for the growing number of students, especially those in cities with more than one large university. These kinds of difficulties relating to competition for places from employers are already facing the further education sector (Rawlinson and Connor, 1996). Furthermore, there is, as yet, limited evidence of a demand from companies for work-based learning first degrees for employed people (except MBAs or some post-experience qualifications). There is still resistance within the academic community to the giving, and possible transfer, to another university, of credit for work-based learning as part of first degree study for students based in the workplace, though the potential of using NVQs in this way is more likely to be realised (see below).

Continuing professional development (CPD)

Professional training (or CPD) was viewed by most universities as a growing area (see Chapter 5 for further discussion on student demand), and most had developed separate, often commercially run units to deliver it and/or to act as brokers/consultants. In a few universities we visited, it was still being kept at arms length from the mainstream of university life, because of internal conflicts between the work of different departments and its interface with traditional academic work. Some universities had gone some way to avoid marginalising it by bringing it into the mainstream management structure of the university. Where it was being delivered from within departments as well as by a commercial unit, the true scale of activity was often unclear and there was no clear strategic view of its development shared by all staff. A range of provision was being developed: *eg* large numbers of students taking MBAs in companies; a huge variety of short courses for professionals (*eg* computing, and engineering).

Student employment services

Several universities were operating student employment services to help students find part-time work while studying. At some traditional universities this was seen as a novel venture. It varied in terms of its relevance to the kind of work the graduates might take up, but was intended to provide students with work experience, as well as financial support. This kind of service is likely to develop further in the future.

Vocational qualifications

Vocational qualifications are likely to have particular significance in the future, both at entry and higher levels. The increasing number of students entering with vocational qualifications (see Chapter 2) is thought likely to lead to a greater vocational orientation, though this cannot be assumed at the outset, and there is no clear evidence to substantiate it. Certainly, the growth in 'new' subjects such as communication, media, business studies and sports science were attributed by university staff to the growth in these subject in the further education sector. The introduction of NVQs in the higher education curriculum is still at an early stage (confirmed by the case studies), but will have the effect of increasing the vocational orientation of many universities still further, especially if more assessment is being undertaken by non-academic staff in the workplace. There are various issues, however, still under discussion which will affect NVQ take-up and provision, including the extent to which higher education encourages the development of 'core' skills (or personal transferable skills) which are a key feature of the NVQ system. Many universities will need to make a shift towards a more explicit focus on the development of these skills. (See Chapter 5 for further discussion on employers' demands for personal transferable skills.)

4.4.3 Flexible delivery

Part-time study

Here the key issue is facilitating the development of part-time study at undergraduate level (*nb* part-time study has developed fast at postgraduate level, see Chapter 2). Some universities were providing more opportunities to participate in higher education at weekends and evenings. At others, however, the implications of longer opening hours for staff contracts was seen as a serious constraint on increasing part-time provision at undergraduate level. The inadequate support for part-time students was often seen as another constraint, *eg* lack of adequate arrangements for childcare when classes were run at weekends or school holidays, and out-of-hours transport/catering arrangements. It was widely seen, however, that the development of modularity and credit transfer and accumulation arrangements have made it easier for individuals to pursue existing (*ie* full-time) degree programmes on a part-time basis.

Some of the universities we visited had extensive part-time provision at all levels and expected it to increase in the future, mainly because more students will have to combine study and work for financial reasons, and also because they were not capped on part-time undergraduate intakes in the same way as for full-time. However, there is currently a serious issue relating to the inequalities in fees for part-time and full-time study which needs to be addressed.

Distance learning

Open or distance learning has had a major impact in higher education via the Open University, the only university to cater exclusively for adult learners studying at a distance. Over 100,000 students are currently studying at the Open University. We found limited development of distance learning in the case studies, with the exception of some postgraduate and professional courses. Even here, however, there were seen to be constraints on further expansion because of the high costs involved in setting up new distance learning courses, as well as uncertainties of demand (particularly in terms of the perceived financial returns on study). One of the case study universities provided video conferencing facilities plus visiting staff to a rural location for a group of undergraduate students about 50 miles away. This was a new development which was working well and likely to be expanded to involve other universities.

The main reason for general lack of development of distance learning, especially at undergraduate level, may be the dominance of the Open University. Other universities have been unable to afford the substantial set-up costs and student support infrastructure. As costs of technology come down this might change. The Open Learning Foundation is developing greater collaboration between universities to embed open learning approaches within existing curricula and thus encourage their greater use. This is seen as likely to develop further in the future.

Location of study

More students drawn from regional and local communities, and not going away from home to study, means a greater demand for local and regional provision. The demands of local economies for high level training are also likely to lead to increased demands for local provision, especially in vocational and professional areas. Some universities were actively developing local employer-led training, while others were taking a more passive role.

Where more students are likely to be locally based adults, attention is being given to making better use of local sites and providing distance learning facilities (as in the example above) in order to expand this part of the market. A particular difficulty encountered at one university was the conflict emerging between extending student choice and developing particular local sites, within a constrained funding environment. There can be limits to the breadth of provision offered at individual sites which previously had been fairly specialised, and independent units. Pressure to make efficiency savings relating to usage of sites can require greater integration of university systems, and more standardisation — as another university in our sample was discovering.

Work-based learning and the introduction of higher level NVQs, discussed above, are other ways in which universities are extending higher education beyond the institutional boundaries.

New approaches to learning

There are questions raised in the literature about the extent to which traditional methods of learning will meet the needs of adults (*eg* McNair, 1993). Mature students can draw on a range of experiences to test academic perceptions and theories and therefore approaches to their learning may need to be more integrated with personal experiences. They are also more likely to be paying for their learning, either personally or via an employer, and therefore have different expectations.

Some examples were encountered of staff resistance to admitting increased numbers of older students, as it altered the balance within classes to the detriment of younger students. In other cases, it was felt to enrich the learning process for all. The differing views between and within universities undoubtedly related to both the culture of the university and the experience of many staff which had been focused almost exclusively on young entrants.

The question of whether the specialist academic curricula of many universities will meet the needs of students entering with vocational (in particular GNVQ, rather than 'A' level) qualifications, was raised in the interviews. Some staff felt that many GNVQ students were unprepared for the pattern and style of conventional degree courses, and may not have the depth of coverage required in certain subjects. There was insufficient experience of teaching GNVQ entrants, however, to provide any evidence to substantiate these suggestions. Similarly, there was limited evidence that students from vocational background have more difficulties than others, though some felt that they needed more support from staff. This related more to making the transition from FE college to university environment, than to their specific course work.

Teaching and learning in higher education are areas slow to change. There have been numerous reports going back as far as

Robbins which comment unfavourably on the teaching methods used in higher education, mainly lectures and tutorials. With much larger class sizes and students with a wider range of backgrounds and abilities, these traditional methods are coming under increasing pressure to change. Contact time is reducing and there is some staff resistance to the overall shift from teaching to learning-centred provision. Some interviewees viewed it as simply a cost reduction exercise. Others felt there was a need to develop more structure to staff-student relations, leading to the introduction of more explicit learning agreements (*eg* Student Charters). A service level agreement with guaranteed levels of contact time with academic staff was under discussion at one university.

The use of technology in learning was relatively under-developed in a systematic way at most of the universities, though there were pockets of innovation, for example computer-assisted learning. This was similar to the findings of the MacFarlane report (1992).

Modularity and credit transfer arrangements to enable students to widen their choice and offer more flexible patterns of study was a much more significant development. Robertson, in his major report on higher education provision in 1994, identified 'enormous potential demand' for credit transfer and other forms of accreditation for prior experiential learning (APEL). Most of the universities in the sample had introduced modular degree structures and credit transfer arrangements, but credit transfer between universities was only beginning to be developed and often on a regional basis (*eg* Scotland, Wales). We found, as highlighted by Robertson (1994), that there was a tendency in places to modularise conventional degree courses without actually permitting any greater choice or flexibility. Again, some staff viewed developments in modularity as being initiated by management more for cost-efficiency reasons rather than to meet the changing needs of students (*ie* actually giving them more choice).

4.4.4 Student support

There was a tendency at some universities to group 'new' students, in particular adult learners, together and assume they have broadly the same needs but which are different from those of traditional students. According to McNair (1993), this is not the case and should be resisted. He pointed out that as well as being of all ages and life stages, with different motivations to study, adults can have a mix of financial support, including employers, public funds and personal contributions, and different domestic pressures. They range from the 'deferred beginners' to 'returnees' and 'enrichers', each studying in different circumstances, for different reasons and putting different demands on the institutions.

Student support was one of the areas receiving most criticism from the students we interviewed, especially the mature students. The level of student support being provided to them was generally seen to be inadequate. The more prestigious universities were criticised in particular for their lack of response to the expanding population, for example in the lack of library books and space, lack of personal contact with lecturers, and overcrowded catering facilities. Some of the mature students with home and family responsibilities commented on the lack of awareness of their social needs in a system geared still to catering mainly for young people living away from home (*eg* very small resources put into child care, no peer support system, more likely to be working from home than on campus). New learning resource centres were being built to accommodate the expansion at some post-1992 universities, but were not yet available.

Universities with modular degree systems (the vast majority) were criticised for their lack of provision of advice about choices. One student who had first hand experience of not getting the flexibility he expected from the system commented:

> *'things are changing so fast, it's difficult to find the right person to get good advice from. Some staff don't know enough about other disciplines and you can end up with the wrong information. It can then be too late to put wrong decisions right.'*

Other students said that staff were too overloaded with work to see students — *'we're seen as a nuisance'*. In some universities, it was clear that the effect on students of the scale of change, for example modularity and semesterisation being introduced simultaneously across the whole university, had been underestimated, in particular the considerable disruption and confusion. Part-time students who have more pressurised regimes with other work and home commitments felt especially disadvantaged by the changes.

The lack of suitable counselling and advisory services, especially for access students or non-standard entrants, was seen as a factor in the increasing drop-out rates at some universities. Students used to higher levels of support at FE colleges were disappointed by the little support they received from the university at the time of entry, in changing initial subject choices. Students (and some staff too) also felt there should be more support provided by the university (and not left mainly to other bodies such as the Student Union) to counsel students with difficulties in completing courses and who needed to retake exams. Large institutions were often seen by students as run by remote administration and management.

The general view is that non-completion is increasing but at differential rates between universities, courses and types of students. Currently available data do not measure it adequately, and research in progress by HEFCE/HESA on non-completion rates will provide useful insights. It was felt by some interviewees that action to address non-completion may not be developing at a fast enough pace at individual universities.

4.4.5 Partnerships

Of growing significance to the changing university is the link between the higher and further education sectors. This has developed in different ways and is seen as an important factor in increasing participation in HE in the last few years (HEFCE, 1995a). The interface between HE and FE is becoming increasingly complex[1].

The wide geographical coverage of FE colleges (FECs) has enabled many students to gain access to a university via their local FE college. In 1993/94 there were over 130,000 HE students in English FECs on a range of courses, but mostly non-prescribed ones[2]. Those on prescribed courses (HND and above) accounted for less than half those on the lower level courses (43,000 compared to 90,000). Data giving the complete picture of HE students in FECs is not clear because of the various bodies involved (*eg* FEFC, HEFCE, *etc.*) and the variety of types of arrangements (*eg* franchising, joint degree programmes). The majority of FECs in England have franchise arrangements with universities, and there were 42,000 franchised student places (in 1993/94), half of which were for part-time study.

The focus and balance of the relationships between HEIs and FECs in Scotland is slightly different, partly because of different funding arrangements from those in England, and partly because of the different qualification framework (SCOTVEC) and separate Scottish based access and credit accumulation and transfer (CAT) schemes (see Sharp and Gallacher, 1996 for a more detailed discussion). In Scotland, the majority of links are based on college led provision rather than franchising of courses or other joint degree programmes developed by HEIs. There has been a very rapid expansion of higher education within FECs during the 1980s and 1990s with the main focus at full-time HND/HNC study. In 1993/94, over a third of full-time students at FECs in Scotland were on HE courses. Articulation agreements, which allow HNC/HND students to progress into degree courses, often at second or third year stages, are a major feature.

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[1] Current research for CVCP at IES aims to provide more clarity on the extent of overlap between the sectors and explore new developments.

[2] In general terms non-prescribed courses are part-time and sub-degree, *eg* HNC and professional qualifications. Prescribed courses include HND, other degree and higher degree courses.

The case study universities illustrated strong and growing links with FECS, but they tended to be concentrated in the post-1992 sector and in universities with well developed local bases. A range of links were being developed. For example, one university had forged strong links with three very locally sited FECs which were increasingly being valued for access purposes as 'feeder' colleges. They were clearly being used as a recruitment mechanism, but also as a low-cost means of expansion as future mergers were likely. A second university had developed a whole raft of different kinds of links with a number of colleges, including access courses, direct franchising of BTEC courses, and Foundation programmes. In contrast, there were others where links were more limited — for example, one of the pre-1992 universities had developed only one course with a FEC; a second had only just recently established an access agreement with three FECs; while a third did not appear to have any formal links at all.

4.4.6 Marketing

For a few universities, the primary strategy to increase/maintain demand was better marketing, in particular improving their image, and information resources. All universities, though, were very image conscious and have developed their marketing in different ways. A few were using TV and radio media, but most used traditional methods, *ie* course brochures, HE guides, national press, schools liaison.

A few universities were specifically targeting adult returners by developing off-campus facilities such as High Street drop-in shops, and counselling services in FECs. Others were trying to project a better image to adults, and to other under-represented groups, through publicity materials and prospectuses. Availability of information to adults about taking up a place in HE was not seen as a constraint, rather finance was the main barrier.

4.5 Typology

It is clear that universities are in different states of change and are making different choices about how to secure their future student intakes. The old binary divide no longer exists but has not completely disappeared. Some of the post-1992 universities are trying to emulate the older ones (and vice versa), while others (mainly post-1992 ones) are being much more radical in their provision and recruitment policies. At the same time, some of the pre-1992 universities are hardly changing at all in terms of policies relating to future students.

There is a spectrum of change but clear groups of qualitatively different kinds of universities can be identified:

i) **the traditional-elite:** a small number of universities, currently the more prestigious ones, which have hardly changed at all in the last five years as they have expanded in size. They are still recruiting mainly young 'A' level or Higher students straight from school from a wide geographical catchment area. They expect to continue in the future to be able to do so without lowering their current high academic standards, or making other significant internal changes. They have little vocational orientation (outside the professional areas of medicine, law, *etc*.). Future growth is more likely to be at postgraduate level, in professional development and especially research.

ii) **the quasi-old:** a much larger number of universities which have traditionally recruited school leavers. They are struggling to compete with group (i) in this market, but have not initiated sufficient change to attract/admit sufficiently large numbers of new types of students, nor do they want to change the balance too much in this direction. Their market is becoming more regionally based. They are developing more vocationalism in undergraduate study, and more flexibility in the curriculum and delivery of learning (*eg* modularity, CATS), but are facing internal tensions between traditional cultures and values and newer development which may be slowing the pace of change. They are less clear about their strategic direction and identity than group (i).

iii) **the quasi-new:** these former polytechnics and colleges have traditionally had a mixed student population and local focus but are trying to shed this in order to raise their image, both nationally and academically (improve quality). They are trying to emulate some of the older universities in their desired student profile, in particular their entry standards. At the same time, they are developing many of the new kinds of provision to continue to attract non-conventional students, their traditional base. The wisdom of this dual strategy is being questioned, and like group (ii) there is a lack of clarity about future direction.

iv) **the real-new:** These were the most innovative of the universities, at the opposite end of the spectrum to group (i). They are broadening their profile further from an existing broad base. They are strengthening local identities and links, moving further towards vocationalism, developing more access arrangements and a flexible range of delivery mechanisms. Their focus in the future is likely to be on teaching at various levels and modes.

Not all universities fit neatly into these categories. They are intended to illustrate the extent to which the sector is differentiated and also how parts of it are changing at a different rate. Some of the groups are able to manage change better than others, and thus are more likely to prosper in the future in terms of securing student intakes and managing their finances.

4.6 Constraints on future growth

Most universities in our sample had relatively modest plans for overall growth over the next decade in comparison to that of the previous five years. This was dictated primarily by the current government policy on overall student numbers, and targets set for them by the funding councils. But all expected continued growth in student demand, mainly due to increasing demographic trends among young people, but also a belief that *'we have consistently underestimated future demand'*. Among those with high adult participation levels there was a general expectation that the market would continue to grow, encouraged by government. There was also likely to be 'growth by stealth' via further mergers and partnerships with other institutions.

When asked specifically if growth was desirable, a few had no wish to grow further, preferring to remain the current size and to consolidate. However, if there was to be another period of expansion in HE, a bit of 'me too' was unavoidable, and it was unlikely within the competitive climate that any university would stand back and refuse to accept growth if the general trend was upwards again.

Under the assumption that more funds were to be made available for expansion, a number of the universities in our sample would expect constraints on growth from various quarters. These included:

- **physical space/location**: Several city centre universities had little room for further expansion on their existing sites.
- **new clients:** A range of factors are likely to limit growth of non-conventional students, in particular: availability of personal finance, local and flexible delivery, and improving support services (to combat drop-out).
- **competition from within the HE sector, especially local universities:** Some cities now have three or four universities and there is greater competition for the local or regional market.
- **their ability to shift demand more to engineering and science:** Several universities were concerned about the comparatively lower growth rates in engineering and science. They felt growth was being constrained here because of deficiencies lower down the educational system.
- **financial pressures on students:** This was likely to reduce demand from lower socio-economic groups, and could affect

the length of course and mode of study (*eg* part-time, or condensed teaching).

- **safeguarding academic standards:** There were concerns that policies to widen access were having a detrimental effect on quality (within the current resource constraints). Performance league tables, and their association with drop-out rates and 'A' level scores, are likely to be a major factor.

4.7 Summary

This chapter has presented information about the way universities are changing to meet the demands of new types of students, and also to help stimulate new student demand for places in the future. It has highlighted how the twin trends of growth and diversity are bringing new challenges to universities in the way they manage change and take decisions about future directions. It seems likely that further changes will be needed on a wider institutional base if the new demands are to be met.

It has also highlighted the increasing diversity between institutions, both in their student profiles and how the diversity of the student mix varies considerably from university to university.

The key points of note are:

- There is both change and continuity at an institutional level, with some universities making substantially more change than others.
- Increasing diversity within the sector as a whole is the consequence of the more diverse institutions expanding at a faster pace overall than the less diverse ones, rather than most universities becoming more diverse.
- Institutionally based efforts to increase the participation of under-represented groups of students has been done in a variety of ways, and some appear to have been more effective than others.
- There are emerging conflicts in policies to widen participation at some universities, especially between objectives on student choice, flexibility and access. There are also staffing implications of increasing flexibility of provision and delivery.
- There is likely to be a greater regional focus for most, but not all, universities in the future.
- Good quality data on student trends, which would improve planning, is missing at most universities.

5. Labour Market Trends

We now move from the students and the university perspective to look at the demand for graduates in the labour market. In this chapter we highlight the key trends in employment of graduates and future projections. We show that the labour market too is becoming increasingly diversified and complex, and that the actual demand for graduates is more ambiguous than many people realise. This sets the context for the next chapter, which presents some of the policy arguments for expansion of HE, several of which make use of this labour market evidence to support future growth.

5.1 Recent labour market trends

The information on employer demand is far from comprehensive and most is based on recruitment trends among large employers. The severe recession of the early 1990s produced cutbacks among the major recruiters of graduates, and although there has been some recovery in recent years, growth in vacancies for new graduates has not kept pace with the growth in supply. Overall vacancy levels have still not recovered to those of the late 1980s (see for example AGR 1995a) and there continues to be volatility in the recruitment market. The most recent figures from the Association of Graduate Recruiters (based on a survey of 274 AGR members in November 1995, mostly medium to large companies which have graduate intakes) show that recruitment in 1995 was actually 2.6 per cent down on 1994 when an increase on the previous year had been recorded. Forecasts for graduate vacancies in 1996 are 13 per cent higher than in 1995 (AGR, 1995). The 2.6 per cent recorded reduction was actually an aggregate of a 12.5 per cent fall in numbers recruited by non-industrial companies and a 21.5 per cent increase by industrial companies, illustrating the divergent trends of different sectors and individual companies.

5.1.1 Small firms

Smaller employers are beginning to become more important as recruiters of graduates. Knowledge of demand trends among this group is, however, very limited. There are no data currently available on size of company which graduates enter as a first destination. Careers advisers we interviewed in the case studies viewed small to medium sized enterprises (SMEs) as a key area of growing demand. They were actively promoting their graduates to local small employers, and developing better links between the university and small firms. Traditionally, most university careers advisory services have been geared up to the needs of mainly large national corporate recruiters (though there are some exceptions). Small firms have varying needs: some require very specific technical skills while others are seeking flexible 'generalists'. They tend to use more informal recruitment methods, and some have little experience in employing graduate level staff.

The Labour Force Survey indicates that eight per cent of employees in establishments with under 25 employees are graduates, compared with 14 per cent in larger establishments. One in four of graduates in employment can be found in small establishments, indicating the importance of the small firm sector.

Further evidence comes from another source, a recent follow-up survey by IES of 1,000 graduates from the University of Sussex (Connor and Pollard, 1996). This survey showed that over two fifths of the graduates were working in firms of less than 200 employees, and 15 per cent in firms of under 20 employees. More of the jobs described by graduates in small firms were 'new jobs' (*ie* they had not existed before the graduates took them) than by graduates in larger firms, an indication of the importance of the small firm sector in job creation.

In order to encourage more graduates into small firms, the DfEE has initiated a number of development projects at universities, many of which are involving collaborative activities with a range of local organisations including TECs/LECs. In some projects, recruitment agencies specifically geared to the needs of small firms are being developed.

5.1.2 Sectoral shifts

In the economy as a whole, there is a long term shift away from manufacturing towards the services sector, and although there are fluctuations from year to year, the employment of graduates is mirroring this long term trend. Prior to 1990, there was almost an equal number of graduates entering commerce as industry, each having a 30 per cent share of total recruitment. Between 1990 and 1993, the percentage entering industry fell to 23 per cent and the percentage entering commerce rose to 33 per cent. This reflects the impact of the recession on the industrial sector in particular. Also increasing its share of graduates has been the 'other' services sector (*ie* excluding education and public services). This covers private professional practice, leisure and personal services, which increased from ten to 13 per cent between 1990 and 1993.

Unfortunately, because of changes to graduate destinations data collection methods, there are no more up-to-date data available. However, an indication of trends can be seen in the recruitment figures from the AGR surveys, see for example AGR (1994), AGR (1995a) (*nb* these cover only part of the recruitment market, mainly the larger firms). These showed that the industrial sector made a strong recovery in 1994, increasing the total number of graduate vacancies at a faster rate than for the non-industrial sector (*nb* commerce and services are included in this survey). However, since then recruitment to the non-industrial sector has been growing at a faster pace.

5.1.3 Pay levels

Pay trends show that the average graduate starting salary did not keep pace with the average salary in the workforce for the early 1990s, but has recently improved and kept ahead of it (see AGR, 1995a). However, these comparisons are made on salaries paid to graduates joining mainly large companies and, as mentioned above, represent only a part of the graduate market, generally the better paid part. Furthermore, the average is derived from a very wide range illustrating the breadth and diversity in the market, ranging from an upper decile of £17,520 to a lower decile of £12,774 in 1995 (AGR 1995a).

5.1.4 Unemployment

Among new graduates, unemployment increased very rapidly in the early 1990s to reach a high of 13 per cent in 1992. This rise is at least partly a function of the economic climate within which expansion in output occurred. Graduate supply increased rapidly at a time when demand was falling. It is perhaps surprising that unemployment rates were not higher. This is probably because more new graduates chose to take postgraduate study as an alternative to unemployment or took time out (*eg* to travel) in the hope that improvements would come along.

As indications of an economic upturn have emerged, and the number of graduate vacancies increased, unemployment amongst newly qualifying graduates has declined — to just under ten per cent for 1994 graduates. This is still high in comparison to the late 1980s when it dropped to under five per cent. However, looking at a different figure, the unemployment rate of graduates in the workforce (*ie* degree qualified people in or available for work), unemployment of graduates has been consistently low. At 4.2 per cent in 1995, this was less than half the rate for non-graduates (9.5 per cent), an indication of the labour market advantage of higher education qualifications.

The very high graduate unemployment rates of the early 1990s may have been a relatively short-term phenomenon. Of longer-term concern are the issues around the decline of the traditional 'graduate job' and the utilisation of graduates' skills (Mason, 1995; AGR, 1993; CBI, 1994; AGR, 1995a).

5.1.5 Changing graduate jobs

Expansion in the UK higher education system in the 1990s coincided not only with an economic recession but also with widespread organisational restructuring, in particular among organisations which had traditionally recruited large numbers of graduates. As a result, the number of vacancies for graduates in formal graduate trainee schemes leading to fast track advancement (what might be termed 'graduate jobs') has not increased as fast as the supply of new graduates (AGR, 1994). This means that the proportion of graduates who can expect to enter a traditional 'graduate job' is declining (AGR, 1993). The CBI recently summed up the changes that have occurred as follows:

> *'Up to the late 1970s, graduates could expect to enter work immediately. They would agree open-ended contracts with large firms — 100 firms would recruit a third of all graduates. They could expect to reach a senior level of management. These conditions have changed over the past fifteen years. Few graduates can expect automatically to enter a specific career and reach a predictable level of employment and salary. A degree makes a graduate more likely to get a highly skilled job sooner, but it no longer guarantees a prestigious job.'* (CBI, 1994)

This view was echoed by the CIHE in its report: *A Wider Spectrum of Opportunities*:

> *'The future . . . will be different from the past in that most jobs for the 'highly' educated will not be top jobs, nor in the stream of management. Many young and older people's degrees, diplomas, or certificates will be needed to fit them to handle change in vital professional or technical, but generally more modest, roles.'* (CIHE, 1995)

There will continue to be a demand for graduates to enter formal training and development schemes, although the career prospects of such trainees may not be as certain as those of their counterparts two decades ago. The key issue is that these opportunities are likely to account for a declining proportion of graduates. The extent to which the remaining population of new graduates is likely to secure employment commensurate with graduate level qualifications is questionable.

5.1.6 Graduate utilisation

Arguments put forward by the government and by employer organisations suggest that the general skill requirements of jobs are increasing, and that employees in a range of posts will therefore need higher level skills to perform effectively (DTI, 1994; CBI, 1994; IoD, 1991; CIHE, 1995). Therefore, on the face of it, the decline in the proportion of graduates entering 'graduate jobs' is not a cause for concern, because graduate level skills are required in a growing share of all jobs. Evidence on the actual employment of graduates and employers' practices does, however, raise the question of whether graduates' skills are being fully utilised in the current employment market.

A number of studies in the 1980s showed that a degree was not always required in jobs filled by graduates[1]. For example, a major study of the demand for graduates in 1989 found that a degree was considered essential for only a third of jobs to which employers had recruited new graduates (DES, 1990). Likewise, a follow-up study in 1986 of 20,000 1980 graduates found that 23 per cent of graduates were in jobs where a higher education qualification had been neither the minimal formal entry requirement for the job nor helpful in securing it (Clarke, Rees and Meadows, 1988).

Under-utilisation is not straightforward and can be defined in various ways. A degree may be a necessary or useful entry requirement but the graduates may then feel they are not using their full abilities once in the job. A research study in 1989, again based on large samples of graduates, found that when asked whether their degree course had been of real value to them in employment, a third indicated that it had not been useful and 31 per cent did not think it would be useful in the future (Brennan *et al.* 1993, p. 115). The recent Sussex University graduate follow-up survey (referred to above) found that while four out of five of the 800 or so graduates who classified their current jobs as broadly at graduate level, less than half said that the actual work required graduate ability and over half felt 'under-employed'. There have been a number of studies of the postgraduate scientific labour market (*eg* MSc graduates in IT, PhD physicists, postgraduate environmental scientists) undertaken by IES which have shown that employer demand is influenced more by the need for specialist skills and abilities than for particular levels of qualifications. Discrete markets for PhD or MSc qualifications are often difficult to discern, and in IT in particular there is considerable overlap in the range of jobs taken up by BSc and MSc graduates.

Another possible indicator of under-utilisation is the proportion of graduates in short-term employment (that is, expected to last less than three months). This has been increasing over the past decade (from three to seven per cent between 1983 and 1993) and in contrast to the unemployment rate did not decline between 1992 and 1993 (DfE, 1994a). It is not, however, clear that all graduates in short-term posts are failing to use graduate level skills — in the recent University of Sussex follow-up survey referred to above, over half had experienced short-term working but it was mostly of a relatively short duration, to meet financial needs, and occurred very early in their careers. Furthermore, some had taken short-term work in professional or management occupations although the majority of short-term working was in lower level work (*eg* clerical and secretarial jobs where graduates are not normally the main recruitment source). Thus, this indicator of under-utilisation is of questionable usefulness.

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[1] These findings for UK graduates are matched by similar results in the US. Forty four per cent of 1991 college graduates did not consider a four-year degree a requirement for their job (Court and Connor, 1994, p. 61).

An increasing number of graduates are not recruited into formal recruitment programmes and may well find jobs with organisations outside graduate programme. A recent survey indicated that two-thirds of employers who recruited graduates onto a formal graduate entry scheme also employed non-scheme graduates (AGR, 1995a). These graduates may not be making appropriate use of the skills they have acquired. Employers interviewed as part of this study all had jobs which they sought to fill with graduates, either via a graduate entry programme or directly, but they also had graduates in other jobs. This was partly due to slack in the graduate market; organisations were taking advantage of the excess supply situation, especially if they thought the graduate to be more competent (*eg* with computing expertise). Several also commented that some graduates are uncertain about careers and *'take a lower level job to see if they like working here'*.

Under-utilisation was identified as an issue in a recent study of graduates in the steel and financial services industries (Mason, 1995). The definition of under-utilisation in this study was slightly different from that generally used and included both jobs for which a university degree was not usually or traditionally required, and which had not been substantially modified to take advantage of graduate-level skills and knowledge, or rewarded different from graduates or non-graduates. Mason found that under-utilisation of graduates in the steel industry was minimal, in contrast to the financial services sector where as many as 45 per cent of all graduates recruited in the 12 months prior to the study had been deployed in unmodified, clerical-grade jobs for which a degree was not required.

Interestingly, though, under-utilisation was not necessarily permanent: employers were looking for ways to take advantage of the 'hidden potential' of the new employees. Countering this positive note, however, was a second process: the perception among employers of a widening variation in the 'quality' of the most able and the least able graduates (and the degree courses that produce them), and their tendency to regard some of the latter as suitable (and available) for routine, clerical based work. Thus, the issue of utilisation appeared to be linked in the minds of employers to the quality of graduates leaving university and the relevance of the skills they acquire. In the future, employers may seek to ensure that they fully utilise the skills of high quality graduates, but may be less concerned about those they perceive to be of lower quality.

Evidence from overseas points to similar scenarios. In a study of the graduate labour market in Germany, 82 per cent of firms suggested that higher education graduates will be substituted for employees with non-academic qualifications. This is despite the fact that 84 per cent of respondents indicated that graduates frequently do not have the skills they require (Buechtemann, 1994). Evidence from the US Bureau of Labor Statistics shows that the proportion of graduates classified as being underutilised has increased from 11 per cent in 1969 to 20 per cent in 1990, and is projected to reach 30 per cent by 2005.

The debate about graduate utilisation is not new. In the current climate of support for continued expansion within a constrained funding environment, however, it is of particular relevance.

5.1.7 Quality issues

Employers' demand for higher education (in the form of graduate employees) relates to the perceived quality of graduates as well as the quantity of them. This is shown in the NIESR study (Mason, 1995) discussed above and also by AGR in their submission to the *Higher Education Review*:

> *'More than any other single issue, employers are concerned about quality. A UK first or postgraduate degree has always meant a good degree. The shift to a more diverse system with more open access must not be allowed to endanger that principle.'* (AGR, 1995b)

In addition to academic ability, however, employers are also looking for graduates with particular intellectual and personal skills, such as: communication, teamworking, awareness of the world of business, languages, numeracy, problem solving. These are highlighted by the CIHE who state:

> *' . . . All such abilities, we think, must now become part of the definition of an 'educated person' whatever their discipline.'* (CIHE, 1995)

Graduate recruiters appear increasingly concerned about ensuring that all graduate employees display a range of academic and personal transferable skills. This is a factor in the upward trend in reported graduate recruitment difficulties. In 1995, 40 per cent of graduate recruiters reported difficulties in recruitment, up from less than 20 per cent in 1993 (AGR, 1995a).

Individual employers interviewed as part of this study confirmed the difficulties relating to skills of graduates, in particular poor presentation skills. While they receive sufficient numbers of applications, many lack the personal and intellectual skills required. They generally had a preference for the pre-1992 universities, because they expected to get higher quality

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applicants from them, and had developed recruitment strategies which targeted a relatively small number of universities, mainly the pre-1992 ones.

Recently, a new study by the AGR (1995c) on skills for graduates received widespread endorsement by employers and careers advisers. It highlighted the need to develop the skills of 'self-reliance' in graduates which was defined as *'the enabling skills which graduates will need to survive in the 21st century. They are the skills to manage a lifetime's progression in learning and work, rather than to do the work itself.'*

Employers are not expecting higher education, or individual universities or courses, to provide a complete preparation for work, since employer needs vary. But according to the AGR report, there are some generic skills which cut across disciplines and could be developed within the curriculum.

5.1.8 Demand from the professions

There are several key trends affecting the demand for higher education from professional bodies and associations:

- Entry to more professions is now dominated by graduates (*eg* the law, surveying, accountancy, teaching) or degree qualifications are becoming increasingly advantageous (*eg* nursing, personnel management, banking).
- More, and a wider range of, professional bodies play an active role in assessing future demand for graduates in their discipline and also in relation to educational quality standards.
- Progress within professions increasingly requires Continuing Professional Development (CPD) or continuing education (CE), much of which can be offered by the higher education sector. CE courses in HE have expanded rapidly over the past five years, up by 45 per cent in student numbers between 1988 and 1993 (pre-1992 universities only), with much of the increase being in subjects related to the professions, in particular medicine, dentistry and health (where almost a four-fold increase was recorded) and architecture and other professional and vocational subjects (an increase of 76 per cent). It should be noted however that the statistics for CE cover a very wide range of provision, not just professional development.

5.2 Future prospects

Occupational projections into the 21st century show that some of the fastest growing jobs during the 1980s and 1990s have been higher level occupations (DfEE, 1996). In the future, these requiring higher level skills (managers and administrators, professionals, and associate professional and technical occupations) will continue to grow, and less skilled occupations

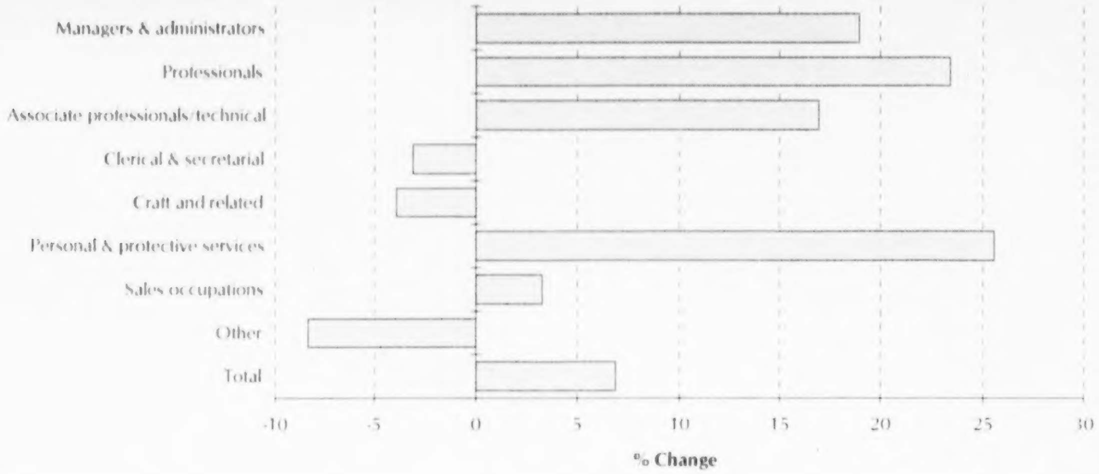

Figure 5.1 Projected change in employment by occupation, 1991-2001

Source: Review of the Economy and Employment 1995: Occupational Assessment, IER, University of Warwick

will occupy a declining share (Figure 5.1). Overall, an increase of about three-quarters of a million jobs is projected for the manager and administrator category between 1991 and 2001, and professional jobs are also likely to increase rapidly, up by over 400,000.

5.2.1 Employment projections

These high level jobs will be taken up by predominantly highly qualified people, but of all ages, not just new graduates or degree holders. The Institute of Employment Research at Warwick University (IER) have recently undertaken projections at an occupational level related to qualifications (*Wilson, 1995*). These show rising proportions of employed people with degree level qualifications. The employment of people with degree qualifications is expected to increase by 40 per cent between 1991 and 2001, slightly less than in the previous period (1981-91), but considerably more than the overall increase in employment of three per cent (Table 5.1).

These projections reflect changes in the supply-side picture rather than the demand side, partly because of the substantial increase in graduate output during the period, but also because those with better qualifications tend to find jobs more easily. Nevertheless, the projections do confirm that the economy will absorb increasing numbers of people with degree qualifications, an additional one million between 1991 and 2001, including 160,000 jobs for postgraduates. According to the IER forecasts, demand is likely to grow more rapidly for postgraduates than first degree graduates overall, and more rapidly for social science degrees, at both levels, and also particularly for some subjects: *eg* science, vocational, arts and education degree holders.

Table 5.1 Employment in Great Britain by qualification, all subjects, 1981-2001, thousands

	1981	1991	2001	% change 1981-1991	% change 1991-2001
Postgraduates	173	345	503	+99.4	+45.8
First degree graduates	1,515	2,248	3,141	+48.4	+39.7
All graduates	1,688	2,592	3,643	+53.6	+40.6
Intermediate	1,408	1,985	2,408	+41.0	+21.3
Unqualified	20,520	20,454	19,807	-0.3	-3.2
All levels	23,616	25,032	25,859	+6.0	+3.3

Source: IER (based on Census and LFS data)

5.2.2 Supply/demand imbalance

The growth in demand, however, is not likely to keep pace with supply over the period, and by 2001 it is projected by IER that there will continue to be a substantial excess of supply over demand for people qualified to above 'A' level (Wilson, 1995)[1]. There were modest surpluses in 1981 and 1991 also, but in 2001 the surplus is expected to be much greater. Despite higher demand growth (see above), larger surpluses are likely to develop for those with higher degrees in education and social sciences and for those with first degrees in science and languages, compared to other subjects.

This simple interpretation of demand/supply side projections is not likely to reflect the actual outcome. Substitution between graduates and those with lower qualifications takes place and has a modifying influence on the overall imbalance and in its distribution. Thus, there is unlikely to be any dramatic increase in the unemployment of graduates, mainly because of the effects of substitution and displacement — 'qualification inflation' or 'bumping down' as its sometimes referred to. Under-employment, as discussed above in section 5.1.5 is likely to be a continuing issue. There may be other mechanisms which might stimulate demand (*eg* changes in rates of pay) or reduce supply (*eg* larger drop-out rates) which will also have an influence on graduate unemployment.

5.2.3 Professional requirements

There are considerable variations in the extent to which professional organisations whose main supply at entry level is via higher education are able to predict their future requirements both in terms of numbers and composition. At one end of the spectrum are the medical and other health related professions which have developed relatively sophisticated models of workforce planning. At the other, are professions such as social work or engineering which lack the data and/or resources to undertake any useful modelling. Even when systematic research has been undertaken to collect data on employer demand, as in the case of engineering, industry's failure to clearly define its future needs makes accurate predictions very difficult.

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[1] For further discussion about supply projections see Chapter 7.

Numbers of graduates have been expanding steadily in all professions and many expect further growth, but at modest levels, for example:

- medical students to increase by 500 over five years, representing about two per cent per year on the current intake of 4,470 (recommended by the Medical Workforce Standing Advisory Committee)
- current growth in graduate intakes to professions allied to medicine (*eg* nursing, physiotherapy) will continue
- two per cent annual increase in demand for engineers to 2010 forecast by the Engineering Council (though this figure should be treated with caution because of difficulties estimating industry's demand, see above; also it is not a new entrant figure).

Others forecast a more static picture, for example:

- dentists estimate current output will remain stable in the short term, and then possibly decline
- the output of social workers is likely to remain at current levels for the next few years.

Numbers taking management qualifications are expected to increase, but mostly at MBA level and in NVQs. Demand for people with management qualifications is likely to increase (in line with IER projections), but there is no information available relating to type or level of qualifications.

At continuing, rather then initial, education levels, virtually all professions viewed Continuing Professional Development (CPD) as an area of considerable future growth. While in the past the 'degree' was seen to be the 'peak', it is now recognised as only the beginning, and that learning will continue. In most professions, this can be seen in their structured approach to developing the 'whole career concept of professional development' incorporating modular elements, credit accumulation and transfer (CATs), accreditation of prior experiential learning (APEL), and links between undergraduate and postgraduate learning.

While frameworks illustrating elements of this whole career approach to CPD and their interrelationships have been developed in many professions, relatively few have got as far as translating them into targets or assessments of the demand it will generate in higher education. One exception is the Engineering Council which has proposed some very specific targets about Lifetime Learning (*eg* by 2000, 80 per cent of engineering and technology graduates should have reached NVQ level 5 in engineering, NVQ level 4 in management, customer care and team-working, and NVQ level 3 in one foreign language), but these targets are still subject to debate within the profession. The Central Council for Education and Training of Social Workers (CCETSW) has recently established a target for postgraduate education, but has not assessed the number of places likely to be needed.

There is a recognition among professions that much of the progress in CPD is going to take place in partnership with employers (as well as of course with higher education institutions too), although much had already been done through collaborations. Some new postgraduate training is being developed by consortia of local employers and HE/FE institutions. Accreditation of particular courses or training packages by professional bodies is likely to be a growing issue.

5.3 Summary

Information on the demand for graduates by employers paints an ambiguous and confusing picture. Over the last few years, graduate demand has been picking up and unemployment of newly qualified graduates, though still comparatively high, has been falling. There are indications, however, that many newly qualified graduates are not taking up jobs commensurate with their abilities. They are entering a much wider range of jobs and fewer are recruited to graduate training programmes. There is extensive evidence of under-utilisation of graduates, at least in their initial jobs, but this varies between sectors.

Countering this, there is continuing evidence of labour market advantage in having HE qualifications. Graduates (in the population as a whole) are much less likely to be unemployed than non-graduates, and starting salaries of newly qualified graduates are beginning to rise faster than average salaries.

Quality of graduates is of particular concern to employers, in particular the lack of personal skills in graduates. This seems to be behind the increasing reports of graduate recruitment difficulties despite the current expansion in supply.

In the short term, employment prospects of graduates seem to be improving. There is projected growth, in particular in some professions. In the longer term, however, it is unlikely that demand will grow faster than the supply of graduates, thus leading to an excess of supply over demand. This excess is likely to be greater than in the two previous decades and will vary by subject. However, as more graduates are likely to take jobs below their ability level initially at least, this will not translate into dramatically higher levels of unemployment for newly qualified graduates.

6. The Policy Dimension

Growth has been widely supported by a variety of constituencies. Key among these have been employer representative bodies, professional bodies and higher education itself. This chapter examines their arguments for expansion, and also places higher education in the context of wider UK education and training policy. An international dimension to the discussions is included by illustrating trends in overseas governments' HE policies.

6.1 Employer representative bodies

Employers' organisations (*eg* the CBI, the CIHE, the IoD, the AGR) have supported the government's demand for a more highly educated workforce. Their HE policies emphasise the importance of higher education as a source of highly skilled people who are seen to be key to the UK's international competitiveness. The CBI, for example, would like to see a 40 per cent graduation rate for young people in the UK by the year 2000 (CBI, 1994), up from the current estimate of about 24 per cent (DTI, 1995) and significant increases in participation by mature people. Support for continuing the shift from an elite to a mass higher education system, and providing a much broader provision, especially to new adult client groups, is echoed in employers' organisations' submissions to the recent DfEE *Review of Higher Education* (CIHE, 1995; IoD, 1995; AGR, 1995; TEC National Council, 1995). The greater role of universities in supporting local economic development is highlighted by the TEC National Council (1995) which also encourage development of more local and regional foci in the higher education system.

These bodies generally support the need for expansion on the grounds of demand, though there is little evidence put forward by them of the likely size of this demand, in particular employer demand. Rather, they tend to rely for support on the IER projections data discussed in the previous chapter or a belief that the economic consequences of an under-supply of graduates, and therefore skill shortages, are far more serious for the UK than an over-supply.

The economic case for large scale expansion in higher education has been discussed by several researchers (*eg* Murphy, 1993; Keep and Mayhew, 1995). The main conclusion is that the positive economic arguments put forward by employer bodies tend to be overstated, especially the contributions that graduates make to economic competitiveness and the economic rates of return. A particular point raised by Keep and Mayhew (1995) is that as the balance of employment shifts from manufacturing to the services sector, the holders of many junior management jobs (*eg* store manager) do not necessarily have to hold degree qualifications — *'we need to be wary of simply equating a managerial job with one that requires a graduate level occupant to undertake it'*. They also point out that many British employers are failing to put their investment in higher level skills to good use, using these extra graduates to produce added value, in terms of competitiveness, innovation, improved productivity, *etc*.

6.2 Higher education

All parties in higher education have given strong support to continued expansion of the system — the students, staff and university management. For example, the NUS would like to see higher participation rates in the 21st century, with 95 per cent of the population experiencing post-compulsory education at some stage in their lives (though it does not make any specific targets relating to higher level study) and a much more seamless progression through the education system (NUS, 1995). The NUS also advocates a radical shift in learning with a vision of greater integration of providers within local communities and greater use of distance learning. In the shorter term, however, its main concerns are about protecting the quality of the student experience within the present declining unit-funding situation, especially dealing with current problems of overcrowding and student debt through improvements to finance.

The staff unions also support expansion, but funded adequately and shaped to meet the increasingly diverse demands which will be placed on individual universities. This includes more, and greater flexibility of, access to widen the age span of client groups, and changes to institutional boundaries. They point out that ever since Robbins, official projections of growth in higher education have been outstripped by actual demand, and see this continuing. The AUT come out more firmly about the scale of the planned increase that is needed and, in its evidence to the government's HE Review, calls for an annual increase of four per cent in full-time undergraduate places so that by 2000 an extra 200,000 have been created. This is justified on the grounds of equity and pool of ability — accommodating increasing demands from all social classes — as well as the international economic competitive arguments. It also points to the need to upgrade levels of education of UK managers and links the need for trained specialists and professionals to the development of advanced technologies (AUT, 1995).

The CVCP's call for expansion has been discussed earlier in the Introduction. Member universities fully endorse the objective of creating a mass higher education system which will support the country's aim of improving economic competitiveness. This will be achieved through full-time and part-time study, the latter being increasingly offered out of normal working hours. The CVCP believes that pressures for expansion are going to arise from the increases in educational attainment in schools and colleges, and that the 33 per cent government target seems modest compared to other international countries. The CVCP has suggested a 40 per cent API figure which would translate into total increase of 209,000 full-time and sandwich students over the period 1996/7 to 2000/1.

The overall CVCP policy is supported by the Committee of Scottish Higher Education Principals (COSHEP). While the Scottish HE sector is different in several ways from the rest of the UK, many of the issues relating to expansion in student numbers are broadly the same.

Bodies specifically concerned with adult education also endorse the likely expansion in demand for higher education. NIACE, in its *Vision* document (McNair, 1993), believes that there is still untapped potential among those who would meet current entry requirements, but were unable to participate in their youth when the system was much smaller. The future higher education system will need to support a 'learning society' and lifelong learners. It points to growth also in the professional development market.

Finally, our discussions at individual universities also showed that staff overwhelmingly support the need for further expansion of higher education, for social and economic reasons as discussed above. Many of them were concerned about the threat to quality from further expansion and diversity without significantly increased funding.

6.3 Professional bodies

There is more mixed support from professional bodies for expansion. While all would generally welcome an expanded higher education system in line with increasing demand, there are varying views, policies and concerns about further expanding the supply in specific vocational areas: for example, overcrowding in the law profession has led to action to reduce training places, while an imbalance between supply and demand in surveying has led to courses becoming more broad-based and less career specific. Bottlenecks at different stages in the education process have led to problems for others, *eg* in psychology, which is very popular at undergraduate level and has expanded quickly but not at postgraduate level, due to funding constraints, thus leading to shortages reported by employers.

Diversity in higher education is generally welcomed by the professions, in particular in relation to gender. Some professions have more negative views about older students taking on long periods of initial full-time training (*eg* medicine, dentistry) and are therefore less supportive of widening access. By contrast, the nature of some professional work, *eg* social work, teaching, means that policies to widen access are encouraged.

6.4 Other bodies

It is worth including here the views from a variety of other organisations, not specifically concerned with either graduates, employment or higher education, but which are in support of an expanded higher education sector. These include:

- the Commission on Social Justice, which recommends an expansion of higher education and a learning bank for lifelong learning (Commission on Social Justice, 1994)
- the Institute for Public Policy Research (Commission on Public Policy and British Business), which calls for two changes: an extension in opportunities for adults to participate in education, especially at sub-degree level or on part-time degrees where currently the payment of fees is a disincentive, and the development of the University for Industry. The latter would develop teaching packages for use by institutions and by its own distance learning systems, to help control costs and ensure quality of provision.
- the National Commission on Education, which argues for an inclusive rather than exclusive higher education system: *'at every stage, education and training must offer a way, not of keeping people out, but of enabling everybody to join in'*. As part of its programme of action, it recommends the introduction of a statutory scheme for Individual Learning Accounts which individuals could draw upon in order to undertake education or training to improve their job prospects (National Commission on Education, 1995)
- The Royal Society's report on *Higher Education Futures* argues, as did Robbins, that it is in the national interest that all those capable of benefiting from higher education should do so (Royal Society, 1993).

6.5 UK Government

The demand for higher education derived from government policy relates to the nation's wider economic strategy. This seeks to ensure the competitiveness of the UK by developing a high quality, high value-added workforce. As part of its initiative to foster such development, the thrust of government policy has been to embed higher education more firmly into the national education and training system. The sector is therefore increasingly affected by overall national education and training policy, in particular the achievement of National Training and

Education Targets (NTETs), the development of the qualifications framework, and lifelong learning. These are discussed below. But we first look at current higher education policy.

6.5.1 Higher education policy

In the early part of the 1990s, the government encouraged the expansion of higher education in recognition both that the country needed more highly educated people to meet the demands of the economy, and that more people from different sectors of society wanted to go into higher education. It brought this about through: providing increased funds; abolishing the binary divide and introducing more independence to polytechnics and colleges; introducing competition between universities for students; changing the student maintenance arrangements (new student loans) and encouraging access initiatives; and the development of more vocationally and work-orientated education. It also introduced a new quality assessment system for research and teaching. Although levels of funding increased, they fell short of the rise in full-time student numbers, due to efficiency improvements.

In 1994, the government slowed down the expansion, partly because it felt it could no longer afford to fund it, and partly because demand had exceeded expectations and the targets set in 1989 for one in three young people gaining a university place by 2000, were almost achieved. It introduced via the funding councils a set of formulae with penalties which would ensure that planned student numbers would not be exceeded. The regulations varied slightly between England, Scotland and Wales, and applied to full-time rather than part-time students. It was expected that restrictions on growth would last three years.

In the 1995 Budget, the government announced a further period of consolidation so that planned student numbers would remain virtually static to at least 1999, a period of five years. (In reality numbers will increase slightly, by around 20,000 each year, about one per cent, to reflect roll-on of previous intakes and some of the changes already in the system, such as the way continuing education students are counted, and teacher training). This would keep participation rates at over 30 per cent, and therefore be almost at their original target, and still be within public expenditure constraints. Further squeezes on unit funding were announced and sharp reductions in capital funding, although it was hoped that the new Private Finance Initiative would lessen the effect of the latter.

The government would like to see the direct beneficiaries of higher education (*ie* the students, and to some extent employers) make more of a contribution to the cost of higher education, but has not yet come up with any long-term plans for student funding. It has turned down recent suggestions of charging students top-up fees. Nor has it made any announcement of likely student numbers beyond the end of the decade. It is currently reviewing its policy relating to the size, structure, shape and funding of higher education and has recently announced a National Committee of Inquiry into Higher Education. This will not report until mid-1997, which is beyond the term of the current government.

6.5.2 Education and training policy

As mentioned above, there are several aspects of government education and training policy which relate to higher education.

Targets

One of them is the National Training and Education Targets (NTETs) (Figure 6.1.). Of particular importance to HE are Foundation Target 3 and Lifetime Target 2.

The Foundation Target 3 is quite ambitious, the Lifetime one less so, and of less relevance directly to the demand for HE. In 1995, 44 per cent of young people in Great Britain had achieved Foundation Target 3, *ie* were qualified by age 21 years to NVQ level 3, had an advanced GNVQ or 2 'A' levels (Dearing Report, 1996). Average annual increases of about 3.1 per cent are therefore required to meet the 60 per cent targets (NACETT, 1995).

In terms of Lifetime Target 2, in autumn 1994, 23 per cent of the employed workforce in Great Britain were qualified to at least NVQ level 4 or equivalent. This means that an average annual increase of 1.2 per cent is required to achieve the target for the year 2000 (NACETT, 1995).

Figure 6.1: National Targets for Education and Training

Foundation Target 1: By age 19, 85 per cent of young people to achieve five GCSEs at grade C or above, an Intermediate GNVQ or an NVQ level 2.

Foundation Target 2: 75 per cent of young people to achieve Level 2 competence in communication, numeracy and IT by age 19; and 35 per cent to achieve Level 3 competence in these core skills by age 21.

Foundation Target 3: By age 21, 60 per cent of young people to achieve two GCE 'A' levels, an Advanced GNVQ or an NVQ level 3.

Lifetime Target 1: 60 per cent of the workforce to be qualified to NVQ level 3, Advanced GNVQ or two GCE 'A' level standard.

Lifetime Target 2: 30 per cent of the workforce to have a vocational, professional, management or academic qualification at NVQ level 4 or above.

Lifetime Target 3: 70 per cent of all organisations employing 200 or more employees, and 35 per cent of those employing 50 or more, to be recognised as Investors in People.

Source: NACETT, 1995

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Linked to these targets are other recent policy developments which may also increase further the demand for higher education: the introduction of new vocational qualifications; changes in schools; the Dearing proposals for 16 to 19 qualifications, and the drive to encourage lifelong learning.

NVQs and GNVQs: England and Wales

In the early 1990s, sustained increases in the proportion of young people staying on in education after the age of 16 led to demands for a qualification which was equivalent to, but different from, traditional 'A' levels. In 1992, the first five General National Vocational Qualifications (GNVQ) were piloted, and then introduced more generally the following year in an additional eight subjects. One Advanced level GNVQ is equivalent to two 'A' levels. Currently, over 80,000 students are registered on Advanced GNVQs and it is estimated that about half will go on to a higher education course (FEU, 1994). Not all of this will be new demand as some of these students will have taken BTECs and entered higher education with them anyway. Some students mix and match 'A' levels and GNVQs. In 1995, about 9,500 Advanced GNVQ students applied for higher education, a tenfold increase on the previous year. It is the view of UCAS that the GNVQ route has made an important contribution to widening access for young people, and contributing to the increase in under-19 year old applications recorded this year for 1996 entry (UCAS, 1996).

The second strand of government policy on vocational qualifications, the NVQ system, may also generate demand for higher education. Higher level NVQs are already available in some occupations and more are being developed. The implications for the higher education system are not yet clear, but universities may find a role in the delivery of NVQs (Otter, 1995), in which case the new qualifications may contribute to the demand for higher education. At the very least, there is likely to be increasing demand for university and college courses which relate to the vocational qualifications system (*eg* the knowledge component of NVQs).

A third strand is the new Modern Apprenticeship system which is linked to NVQ and GNVQs and, starting in September 1995, was being offered in 50 sectors. It is expected that some people from these schemes will progress further to higher education.

Qualifications in Scotland

The situation is somewhat different in Scotland where the proportion of 16 to 18 year olds in full-time education and training was already higher than elsewhere in the UK. As a result, the introduction of general Scottish Vocational Qualifications (GSVQs), whose timing is a little behind that of GNVQs, is less likely to generate new demand for higher education than is the case with GNVQs in England and Wales (although, as noted below, GNVQs themselves have partially replaced existing provision) (HEQC, 1995).

A number of GSVQs are currently being piloted in schools and colleges. The new awards will be integrated into the new 16 to 19 year old education system (*ie* SCOTVEC, SVQ and Highers) currently being developed for implementation in 1997/8. At the same time, Highers are being reformed. Higher courses will become modular and a new Advanced Higher is being introduced (*Higher Still*, Scottish Office, 1994).

These reforms are intended to bring several benefits including: higher levels of attainment for all students, more recognition of what has actually been achieved at different stages, expansion and rationalisation of the existing vocational and academic systems (equal status), and a more coherent curriculum and assessment framework in 14+ education. The main implications for higher education are that in future, students should have studied subjects in greater depth, and the existing trend to stay on to S6 year before going to university will be re-reinforced. This may mean that students could enter after the first year of degree programmes, thus shortening the length of their traditional four-year course. This is currently still under discussion. It may also generate more demand, especially from adult returners who can take entry level courses in a staged way.

Lifelong learning

A third strand of the current strategy to increase the qualification levels of the workforce is encouraging lifelong learning, or creating a 'learning society'.[1] Higher education's existing role in continuing education and professional development is likely to expand as a result of this initiative. The government's recent White Paper, *Competitiveness: Forging Ahead*, presents a number of measures to encourage people to improve their own skills via lifetime learning. One of these entails helping adults with the cost of learning, and the government is seeking ways of increasing the use of Career Development Loans in further and higher education for students not eligible for mandatory awards (DTI, 1995). The recent consultative document on Lifetime Learning (DfEE, 1995b) provides more details of the development of a culture of lifetime learning. This highlights ways in which higher education providers are becoming more responsive to the needs of adult learners, who now make up half of all students in higher education, and a third of undergraduates. These include: the growth of modularity and credit assessment on degree courses, so that individuals can put together courses to meet their own needs, delivery of courses part-time, including evenings, and at a distance learning, and opening up access to people without traditional entry qualifications. The consultative document also includes details of how the government is currently assessing ways in which improvements can be made in the use of technology in learning methods (*eg* the potential of superhighways).

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[1] 1996 has been designated as the European Year of Lifelong Learning.

The commitment to develop lifelong learning and continual updating of skills is, therefore, another factor which is likely to lead to increased demand for higher education. This will be particularly the case if the boundaries between academic and vocational qualifications become blurred, and greater collaboration between higher education and business is developed (see NACETT, 1995, p. 44; Otter, 1995; CVCP, 1995a).

6.6 International comparisons of higher education policy

While most advanced countries have embraced the concept of competing in international markets on the basis of a high-skill, high-value-added workforce, the UK government is one of relatively few countries which have set numerical targets for education attainment at higher levels.

France has set specific goals and targets for baccalaureate attainment (the entry qualification to university), while Australia has targets up to 'A' level entry equivalent to NVQ level 3. The USA does not have such targets, neither do South East Asian countries, such as Korea or Taiwan, where growth in HE output has been very fast.

During the 1980s the French government predicted that by the year 2000 a significant change in the structure of the job market will have occurred, with the number of jobs requiring skilled and trained labour likely to increase at the expanse of unskilled jobs. The government appreciated that in order to meet the needs of the twenty-first century they must begin by expanding the educational attainment level of the young. As a result a new educational objective was introduced: that by 2000, 80 per cent of young people would succeed in obtaining a baccalaureate. Currently about 70 per cent do so. One of the mechanisms for increasing educational attainment has been the introduction of a vocational baccalaureate. This move bears some similarity to the UK government's introduction of GNVQs. The vocational baccalaureate was created in 1985 and in 1993 it was taken by almost 53,000 students, or six per cent of the age group. The number is expected to reach 80,000 by the year 2000. While vocational baccalaureate holders can continue onto higher education, in practice only 15 per cent do so, and most of these register for non-university short-term technological programmes (Bloch, 1996).

In 1991 the Improvement and Development Scheme for Higher Education, or University 2000, was adopted. This has four main objectives:

- to increase the number of French students entering higher education to at least 300,000 by 1995
- to adapt the higher education apparatus to the needs of the economy by developing vocationally-oriented programmes at all levels
- to involve higher education institutions in the dynamics of regional development
- to prepare France for full participation in the European Union and for competition in the intellectual and educational field.

The main thrust of recent French policy has been to increase the number of young people with skills at the technician, rather than professional level. Five new centres of the prestigious École des Arts et Metiers (schools of technical arts) have been created to train production oriented engineers (as opposed to the more conceptually oriented products of the écoles d'ingénieurs). In addition, 160 branches of the existing Instituts Universitaires de Technologie are planned for the year 2000 (Ministry of Higher Education and Research, 1994).

Apart from explicit UK government HE policy expressed in numerical targets, there has been a more widespread tendency to seek to increase access to HE and a concern to ensure that the social composition of the student population more accurately reflects that in society as a whole. Such policies have been adopted in many advanced industrial countries, with the result that students entering HE now are drawn from a much wider range of experiences and backgrounds than had previously been the case.

In Germany, for example, the proportion of students entering higher education institutions via the traditional route (an Abitur from a Gymnasium or grammar school) has declined to under two-thirds (64 per cent). Those entering the system with an Abitur from a vocational school, on the other hand, have increased their representation and accounted from over a third (36 per cent) of the net increase in enrolment between 1970 and 1992 (Buechtemann, 1994). This pattern is similar to the trend in the UK over the past 15 years.

A second example of democratisation comes from Australia, where since the early 1980s the government has sought to ensure better representation of under-represented groups. In 1984 it directed the Commonwealth Tertiary Education Committee to propose: *'ways of achieving rapid, substantial and sustained reductions in the mismatch between the composition of society and the social composition of tertiary institutions, individual faculties and the tertiary sector as a whole'* (cited in McInnis, 1996, p. 103). This policy is similar to that adopted by many US states, with their demand that publicly funded institutions seek to be representative of local or state populations. This policy has been implemented within a context of generally expanding enrolments, a factor which facilitated progress towards the realisation of diversity goals:

> *'. . . this tremendous expansion has changed the character of the student population, which reflects more closely than it did even 50 years ago the characteristics of the society as a whole with respect to sex, race, ethnicity, age and social origins. Much of the growth in recent years has been from formerly under-represented groups — women, ethnic minorities, and older, working and part-time students.'* (Trow, 1996, p. 27)

UK policy is therefore broadly reflective of trends in other countries. Differences remain in the pace at which democratisation is occurring, and the extent to which it is the result of explicit and stated government policy.

6.7 Summary

There is wide support, from employers, higher education and professional bodies, for continuing expansion and broadening of the intake to higher education on the grounds of social and economic needs. Countering this, is the economic case for expansion, and the issue of under-utilisation of graduates. Some professions are less supportive than others of continued expansion of initial education in specific vocational areas.

The government has come out in favour of consolidation for the time being, though it has initiated a review of the future size, shape and funding of the sector for long-term policy development. There are several aspects of the government's broader education and training policy which will impact on HE. In particular, targets relating to educational attainment by young people, lifelong learning, and the development of GNVQs and NVQs (and the new qualifications being developed in Scotland) could all have the effect of stimulating demand for HE and broadening participation still further.

International comparisons show that while few countries embrace the concept of numerical targets for higher education output, there is a general trend in government policies towards wider access and the broadening of participation in higher education, to the benefit of a wider cross-section of society.

7. Student Demand for Higher Education

The purpose of this chapter is to present information from a number of sources, on likely trends in student demand for higher education. It is divided into three main sections: first, there is a review of applications and admissions trends; second, the main factors which are likely to influence future demand are discussed; and third, the outcome of the modelling exercise is presented, which shows a number of different scenarios relating to 'inputs' to higher education and their effects on outcomes in terms of the student population beyond the year 2000.

7.1 Demand trends

As discussed in earlier chapters, the number of entrants to higher education has been increasing, and the growth has been particularly rapid since the end of the 1980s. The number of first year full-time undergraduate (home) students increased by 82 per cent between 1988/89 and 1993/94 (Table 2.1). The entry profile has aged, with a more than doubling of the number of full-time undergraduate entrants aged 21 years or over between 1989/90 and 1993/94. It has also broadened, with more entrants coming from different educational backgrounds, more female entrants (particularly older women), more from ethnic minorities, but there has been less change in the social class structure (see Chapter 2).

7.1.1 Applications

Long-term trends in applications are difficult to discern because of changes within the sector and the admissions system. The two sector-specific agencies which received applications separately from individuals up to 1993 have merged (UCCA and PCAS) so there is now one agency (UCAS) covering the whole of higher education. There have also been changes from year to year to the application process, in particular the number of applications individuals can make, the number of institutions included, and the extent of 'late' and direct applications.

The data available on trends in applications relate to full-time study only, and there are no nationally available data on applications to part-time study, nor on postgraduate entry.

Between 1987 and 1992, applications to higher education increased at a fast rate, but the growth was greater in the former polytechnics and colleges (via PCAS) than in the pre-1992 universities (via UCCA). The former rose by over 200 per cent to reach over 300,000 by 1992, while the latter grew by 80 per cent to just over 270,000. There is some double counting if the figures are added together — at least 180,000 people applied through both systems. However, they do show that applications were well in excess of places available. In 1992 the total number of admissions/acceptances to full-time undergraduate courses was almost 260,000. The data are inadequate, however, to show whether overall demand for full-time degree courses had been consistently higher over the period. Total admissions increased by 93 per cent over the 1987-1992 period (year of entry), but the trend was different in the two sectors. While the ratio of applications to admissions increased in universities (from 1.95 to 2.04) it declined in former polytechnics/colleges (from 3.72 to 2.83). This is likely to be for two reasons: more people who might have previously only applied through UCCA began to apply for places in both sectors, while the additional applicants to PCAS tended to apply only to that sector.

Since 1993, applications for full-time degree and diploma courses in higher education continued to rise (*nb* the data are not compatible with the previous years).

There is evidence of a possible slowing down in the growth rate. The latest report from UCAS on 1996 entry shows a decline for the first time in overall applications by the closing date of December 1995. The total number of applicants for 1996 was 340,000 (including 306,000 from the UK) a decline of 1.6 per cent (or 2.0 per cent for the UK only) on the 1995 total. However, this is a very small dip and may be made up by late applications. It also masks different trends within various groups, *eg* applications from under-19 year olds are still growing (up by 3.6 per cent on 1995 figures), and demand from women has remained stronger than from men (though both have fallen numerically overall).

7.1.2 Institutional demand

At an institutional level, there are no data publicly available on applications, and no analysis has been undertaken separately of pre- and post-1992 universities. Considerable variations are known to exist between institutions in the size and nature of student demand overall and the ratios of applications to acceptances for particular courses. However, care needs to be taken in interpreting data at course/institutional level because there is a degree of self-regulation — courses that are known to be hard to enter can put off applicants, and *vice versa*.

In the individual case studies, attempts were made to explore the extent to which demand had declined, if at all, and where actual shortfalls existed, and, by contrast, where demand significantly exceeded the available places. This proved to be more difficult than expected. Some staff were not happy about publicly discussing downturns in applications or shortfalls to particular subjects or courses, as this was a sensitive issue for them because of the resource implications. Also, in some universities it is complicated by modular degree programmes and other changes such as the development of part-time modes.

Although there had been press reports last Autumn of 'empty places' in higher education at the start of the 1995/96 academic year, we found little evidence of actual shortfalls — for example, where courses had not run because of too few students or significant cutbacks in course sizes. This is partly because of the modular structure of many undergraduate courses with its considerable fluidity and flexibility which can mask shortages in specific areas. It is also partly due to the inertia in the system whereby there is resistance by staff to actually dropping courses as a consequence of a lack of demand. However, clearly, 1995 entry had been a more difficult year for many admissions tutors, especially in some of the less popular areas of engineering and science with less 'clearing' activity than in previous years. Just over one-third (five out of the 14) universities in the study had experienced a reduction in applications overall between 1994 and 1995, but slightly more, over half, had experienced reductions in applications to engineering and science subjects.

There were considerable differences between universities. For example, one large red-brick university had recorded no downturn in applications in 1995, not even in areas they regarded as being nationally in decline (*eg* physics), and commented: *'Our problem is not shortage of demand but keeping within the MASN targets'*.

Two other pre-1992 universities were of a similar view: *'We have no major problems filling places. Our ratios are as high as 15:1 in some subjects. Demand is weaker, though, in some very specialist subjects such as particular foreign languages or some scientific disciplines . . .'* commented one of them. Both these universities had generally high academic reputations. They expected that their unmet demand would be met from elsewhere in the sector. A fourth pre-1992 university, however, with a more regional focus and a slightly less academic profile (they placed themselves in the middle of the league table) admitted to *'just keeping our heads above water'* and acknowledged that more pro-activity in stimulating demand would be required in the years ahead.

By contrast, most (but not all) of the post-1992 universities had experienced a downturn in applications overall between 1994 and 1995. Some put this down to over-ambitious targets, others blamed increased competition from other local universities, yet others blamed their inefficient administration systems and publicity/image. All of the new universities were experiencing difficulties filling places in engineering and science, though there was little evidence of actual unfilled places. Local factors were one explanation, *eg* the industrial decline in their area; but most of the others felt their experience was part of a national downward trend in the relative attractiveness of engineering and science.

Subjects with generally declining application levels, but not at all universities, were:

- mechanical engineering
- law (especially at postgraduate level)
- built environment
- physics
- languages.

Subjects increasing in popularity at a faster rate than others were:

- psychology
- sports science, leisure
- media studies
- health-related studies, especially pharmacy, physiotherapy
- other professional studies (*eg* law, social work).

Subjects which were continuing to maintain high demand levels, especially at the post-1992 universities, included:

- business studies
- computer science
- social sciences.

National data (UCAS) confirm some of these findings at a subject level. The highest applications to acceptances ratios in 1994/95 were:

- physical education (3.0)
- media studies; art, design and drama; business and management (2.6)
- pre-clinical medicine and dentistry; and teacher training (2.2)
- psychology (scientific) (2.0).

By contrast, some of the lowest ratios were in engineering and technology disciplines, 1.22 overall and dropping as low as 0.5 for general engineering and 0.9 for production and chemical engineering. In physics it was 1.1 and chemistry 1.0.

Levels of concern about, and specific actions being taken, to deal with reduced demand for places varied from university to university. Several pre-1992 universities had appointed marketing specialists and tried to improve publicity and administration procedures, and their image/profile to potential students. The second main thrust of effort to stimulate demand was the development of a range of schools liaison work and access programmes, although as discussed earlier the success of some of these in terms of actually increasing entry numbers significantly has been mixed (see Chapter 4).

7.1.3 Future demand

It is clear that future demand for higher education is likely to come from a more diverse population in the past. Growth has been seen in applications to full-time courses from young people with new GNVQ qualifications, and there would seem to be greater growth from some groups than others (*eg* some ethnic minority groups, women) although the evidence on long-term trends is limited. However, there are a number of influences on student demand which may alter current trends. These are discussed in the next section.

7.2 Factors affecting future student demand

In the past there have been a range of factors directly influencing student demand for higher education or providing a context for changes in demand. These include:

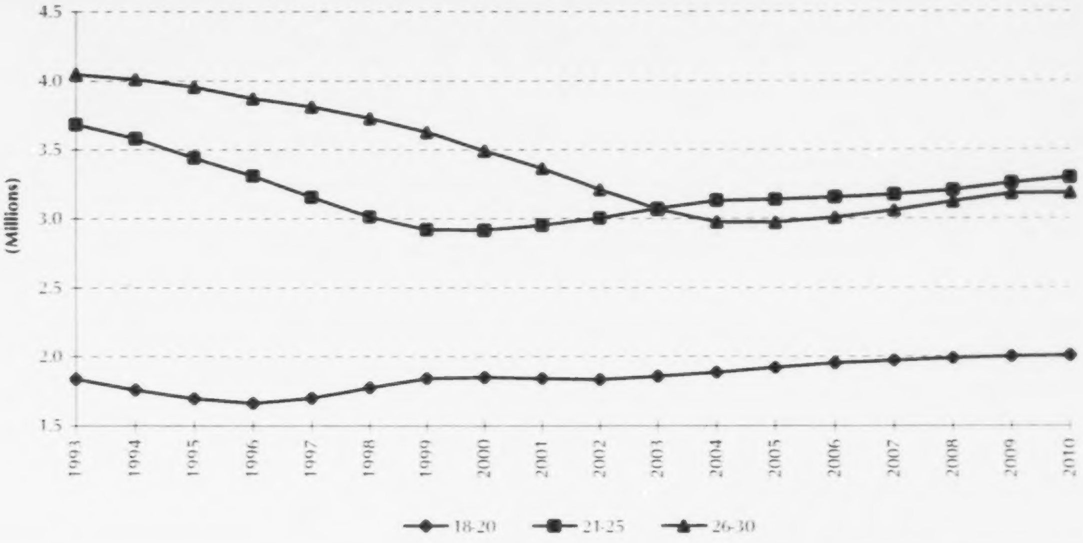
- demography, in particular, changes in social class structures
- educational attainment of young people
- parental and social influences on young people
- signals from the labour market, in particular the existence of alternative employment opportunities
- availability of alternative routes into higher education, in particular, ease of access for adults to participate
- the cost of participating, and perceived financial rates of return
- public perceptions of the quality of a university experience *eg* overcrowding, student poverty
- institutional initiatives targeted on under-represented groups.

Many of these factors are inter-related. Some can stimulate, others can depress demand, and they have a varying influence on different client groups (*eg* women/men and young/older people) to enter higher education.

7.2.1 Demography

Demographic trends are a key determinant of demand for higher education because the number of people in specific age groups represents the pool from which the student population is drawn. The pattern most likely to affect future student numbers is the

Figure 7.1: Projected population by selected age group 1993-2010



Source: NOMIS

rise in the number of 18 to 20 year olds predicted to start after 1996. This increase comes after a decade when it declined by a third. The population of 21 to 25 year olds and 26 to 30 year olds is, however, projected to continue to decline: in the case of the first group to the turn of the century and for 26 to 30 year olds to 2005 (Figure 7.1). As discussed earlier, an increasing proportion of students is drawn from these two groups and, all things being equal, a decline in the population numbers is likely to reduce demand for higher education from 21 to 30 year olds.

On the other hand, the number of people over the age of 30 is set to increase quite markedly (by eight per cent between 1996 and 2005). If the government's plans to encourage lifelong learning are effective, the rise in the numbers in this age group entering higher education may compensate to some extent for declines in the 21 to 30 year old group. However, because more young people are entering higher education, less of the older group will have missed out on opportunities to participate earlier, thereby weakening demand.

A more insightful analysis of demographic trends disaggregates the changes by social class. Projections of population by social class are not available and so we have made estimates based on secondary sources, using the 1991 Census of Population data. These suggest a changing social class structure over the next ten years with a shift in the balance towards 18 to 20 year olds in lower social classes. This is a reversal of recent trends when the population in this age group declined overall but with smaller reduction in higher social classes, thus shifting the social class balance in that direction. In fact, this was one of the factors which contributed to increased demand for higher education during the early 1990s. (See Appendix 3 for further details of changes in the social class structure of the 18 year old population.)

The pattern of participation in higher education varies considerably by social class. Not only are there lower participation levels in lower social classes but the latter are more likely to enter HE via further education and at an older age. Thus if the population in the lower social classes increases at a faster rate than in the higher social classes, this will have the effect of dampening demand for HE overall, but also changing the pattern of entry. Also, it is worth noting that the social class distribution is not even across the country and therefore these changes will have a regional dimension.

7.2.2 Young people and education

Access to some form of qualifications is generally required for entry to university, in particular for those wishing to enter direct from secondary school or college. There are a number of developments in young people's education which are likely to affect the demand for higher education from this group, including:

- rising staying-on rates
- increasing educational attainment
- the introduction of advanced vocational qualifications.

In addition, the recent Dearing Review made proposals for changes to qualifications for 16 to 19 year olds which need to be considered (*Review of Qualifications for 16 to 19 Year Olds*). These developments are discussed further below.

The last five years have seen a rapid rise in the proportion of young people staying on at school after the age of 16. The staying-on rate for 16 to 18 year olds increased from 55 per cent in 1987/8 to 67 per cent in 1992/3, with the rise in full-time participation compensating for a decline in part-time participation (Table 7.1).

Data for England only show that this increase continued to 1994/5 for 17 and 18 year olds. Among 16 year olds, however, a slight decline was recorded over the year to 1994/5 (DfEE, 1995a). It is too early yet to determine whether this is applicable to the rest of the UK, and whether it represents an end to the upward trend of the past decade (it may be a one year aberration, for example). However, young people's participation in education may have levelled off. Alternatively, improvements in the youth labour market may be providing alternative opportunities to young people who would have stayed on in education in preference to unemployment. If this is the case, and the labour market shows further improvements, participation may continue to fall.

Table 7.1: Proportion of young people continuing their education aged 16 and over: UK (%)

	1987/8	1988/9	1989/90	1990/1	1991/2	1992/3
Full time and part time						
16 years	74.5	79.2	79.6	81.2	85.4	87.7
17 years	54.9	56.8	59.8	61.7	66.2	68.1
18 years	36.9	36.2	38.4	40.4	44.6	47.6
16-18 years	55.3	57.0	58.3	60.4	64.8	67.3
Full time						
16 years	51.2	54.8	57.3	61.9	67.8	71.2
17 years	33.8	35.9	39.8	43.3	49.5	54.4
18 years	18.6	19.4	21.5	24.5	29.0	33.4
16-18 years	34.4	36.4	38.8	42.5	48.1	52.5
Part time						
16 years	23.4	24.4	22.2	19.8	17.6	16.4
17 years	21.1	20.9	19.9	18.4	16.8	13.7
18 years	18.3	16.8	16.9	15.9	15.7	14.2
16-18 years	20.9	20.6	19.6	17.9	16.7	14.7

Source: Education Statistics for the UK, various years

If staying-on rates continue to decline, or simply remain static, the implications for the demand for higher education will depend on whether specific groups of young people are disproportionately affected. Of particular significance will be the extent to which the turnaround in staying-on rates affects young people who would have been likely to enter higher education. Evidence from the Youth Cohort Survey suggests that the most powerful predictor of further educational participation is young people's achievements in exams at the end of their period of compulsory schooling (Gray *et al.*, 1993). Any decline may, therefore, disproportionately affect young people who would have found entry to higher education difficult.[1]

It is also important to note that there are substantial regional variations in staying-on rates. The proportion of 16 year olds participating in school or further education, ranges from over 80 per cent in Scotland and Southern England (East Anglia, the South East and South West) to 71 per cent in the North (*Regional Trends*, 1995). If students increasingly study in their home region as the cost of attending university rises and public provision for meeting those costs falls, this is likely to have a disproportionate effect on universities in areas where participating has traditionally been lower.

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[1] One of the reasons suggested for the decline in participation among English 16 year olds is that there is dwindling potential for recruitment among those with low educational attainment (*Times Educational Supplement*, 25 August 1995, p.1).

A second aspect concerning young people and their likely demand for higher education is that higher staying on rates have been yielding a greater level of educational attainment. Of particular relevance to higher education is the rise in the proportion of young people gaining 'A' levels (or their equivalent). Thus, in the UK outside Scotland, the number of male and female students gaining at least two 'A' levels at school, expressed as a proportion of 17 year olds in the population, increased from 14 and 13 per cent in 1985/86 to 21 per cent and 24 per cent respectively by 1992/93. (*Nb* from April 1993, school figures exclude sixth form colleges and so later figures are not directly comparable.)

A notable feature of recent increases in educational attainment is that young women are now doing better than young men when it comes to entry qualifications for university. In the mid-1960s, nine per cent of female school leavers left with two or more 'A' levels compared to 13 per cent of men. This situation has now reversed and young women are more likely to leave with such qualifications (26 per cent compared to 23 per cent). The success of women at gaining 'A' levels is likely to continue in the near future if only because of their success at earlier stages in school education. Girls gain more GCSEs than boys on average, and they tend to reach higher standards. This is particularly the case in modern languages and English but even in areas where boys have traditionally done better, such as mathematics and sciences, girls are now achieving improved results (Court, 1995). On the other hand, there is some evidence to suggest that they do not participate to the same extent in vocational training as men: a lower proportion of women than men gain NVQ level 3 qualifications (Gibbins, 1994).

This gender differentiation may influence the kind of subjects in highest demand in the future. Given the gendered nature of subject choice (see Chapter 3), increasing applications from women may compound the existing problems faced by many science and engineering departments.

A third factor related to young people and education which may affect higher education, is the development of advanced vocational qualifications (see earlier in Chapter 4 for a discussion of government policy and GNVQs/SNVQs). In 1994, 60 per cent of the 1,500 students who attained an Advanced GNVQ (the first year's output) applied to higher education, and almost all received an offer of a place (UCAS/FEU, 1995). This is indicative of a high level of demand for higher education among Advanced GNVQ students, although it should be emphasised that not all of this will be new demand: some students would have taken alternative vocational qualifications had GNVQs not been available, and entered higher education via this route.[1] This is particularly the case with GSVQs which are replacing much of the existing vocational provision in Scotland. Also, it is only one year's data, when numbers were very small and GNVQs only available in a limited number of subjects. The expansion of the system in 1995, with 9,500 Advanced GNVQ students applying, was a tenfold increase. However, this still represented only three per cent of all applications via UCAS, and for most universities numbers entering with GNVQs were very small.

Participation in GNVQs has grown dramatically, so that currently almost 80,000 students are registered on Advanced GNVQs. This figure is likely to increase still further. If, as suggested by earlier research (FEU, 1994), about a half of those who gain an Advanced GNVQ will expect to go on to some form of higher education course, and an additional six per cent expect to go on to some form of specialist training (mostly nursing), then this represents a significant potential for increased demand for higher education. However, there is some evidence about lower than expected completion rates for GNVQs including longer than expected periods of study. Together with the fact that not all the GNVQ students represent 'new HE entrants', the demand for higher education from this quarter is likely to be lower than the 40,000 plus per year that these figures suggest, though remaining a substantial new source of entrants.

The new National Targets aim to ensure that 60 per cent of young people by the age of 21 should achieve two 'A' levels, an advanced GNVQ, or an NVQ level 3. Since about a third already take 'A' levels, the target increase in the number achieving advanced level qualifications is likely to come mainly from vocational qualifications (Dearing, 1995). This has important implications for higher education as it implies that the main source of growth in entrants (assuming that expansion continues on current trends) is likely to be among those with vocational qualifications. (*Nb*: most universities also envisage growth mainly from this direction.) Currently, young people on vocational courses have lower GCSE attainment that those on 'A' level courses (Payne, 1995, Chart 3.6).[2] The main growth in young entrants to higher education is therefore likely to be among those who are less academically oriented, or at least those with lower academic attainment, than traditional 'A' level entrants. If this pattern continues, it will have implications for the types of courses offered by higher education institutions and the level of knowledge/skills HE staff can expect new students to have acquired prior to starting university or college. On the other hand, the Dearing proposals to make much stronger links between 'A' levels and GNVQs may produce less marked differences between students following the different qualifications pathways.

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[1] Many Advanced GNVQ students would have taken alternative vocational qualifications such as those offered by BTEC and City and Guilds had GNVQs not been available. This means that not all students applying to HE with GNVQs represent an absolute increase in demand for higher education — to some extent demand from the BTEC/City and Guilds group has been substituted by demand from the GNVQ group.

[2] The data on which this finding is based were collected prior to the introduction of GNVQS. The strength of the relationship between GSCE attainment and undertaking post-16 vocational qualifications may be less marked for GNVQ students.

7.2.3 Parental education and social class

Two of the main determinants of the demand for higher education relate to young people's social background, in particular, levels of parental education and social class. As mentioned above, there has been relatively little change in the social class background of entrants to higher education over the past decade. Data for the pre-1992 universities (for which a longer time series is available) show that in 1983, almost three-quarters (73 per cent) of accepted home applicants taking GCEs were from the two highest social classes (professional *etc.* occupations and intermediate occupations). A decade later, this proportion had declined slightly to 68 per cent, with most of the growth accounted for by non-manual and manual skilled occupations and the lowest two social classes showing little change. Data from the former polytechnics point to a similar, but less marked, situation. In 1992/3, 54 per cent of admissions to degree courses, and almost 50 per cent of admissions to HNDs, were from social classes I and II (Figure 7.2).

Information for 1994, which includes all those applying to higher education via UCAS, reveal a similar situation, with over-representation of the higher social classes — 61 per cent of all accepted home applicants came from the professional and intermediate social classes, compared with a figure of 37 per cent for their representation in the economically active population. These figures suggest that there is substantial under-representation in higher education among individuals from the skilled non-manual, skilled manual and the partly and unskilled social classes (Court *et al.*, 1995).[1]

This under-representation has been confirmed in a number of studies of the effect of social class on participation in higher education (*eg* Burnhill *et al.*, 1990; Marsh and Blackburn, 1992; Rudd, 1987; Egerton and Halsey, 1993). For example, using data

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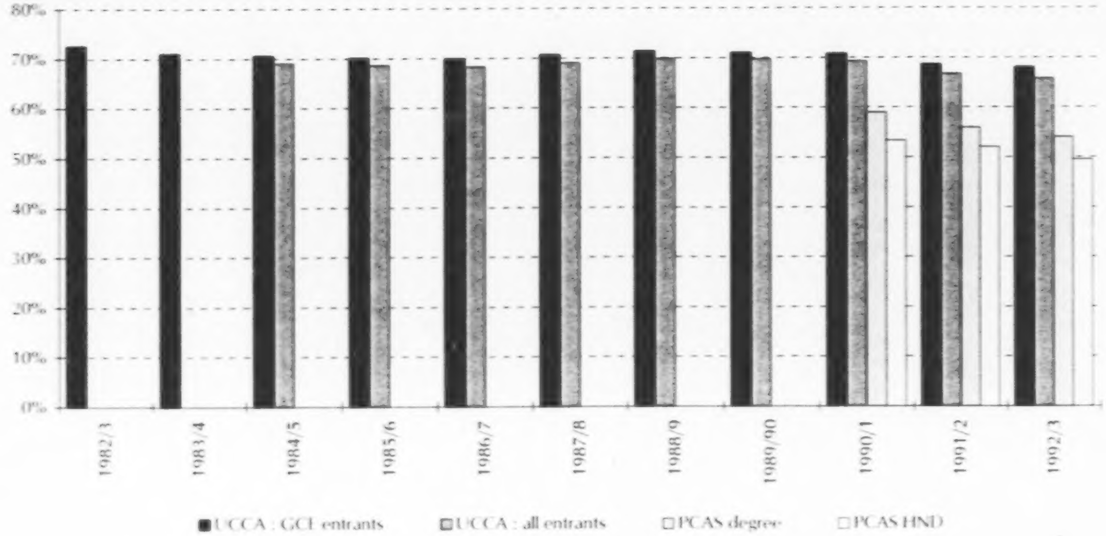
[1] There is, of course, an issue about the extent to which the social class categories used are relevant in contemporary society. The Central Statistical Office has recently discontinued its use of these groupings. In the absence of alternative classifications, however, they are the best available source of data on the social background of higher education entrants.

Figure 7.2: Proportion of entrants to higher education (full-time) from social classes I and II



Source: UCCA/PCAS Statistical Supplements (various years)

for Scotland, Burnhill *et al.* found that the odds of a young person from social class I (professional *etc.*) qualifying for higher education were more than double those of a member of social class III (skilled non-manual). The same study found that once an individual had gained the qualifications necessary for entry to higher education, social class no longer had a marked influence on whether or not they actually entered higher education (Burnhill *et al.*, 1990). This is consistent with the findings of a later study using national level data which concluded that social class and parents' education have been so decisive in explaining decisions at 16, that there is no more they can explain at 18 (*Bennett et al.*, 1992).

Egerton and Halsey looked at the effect of social class on access to different types of higher education institutions. They found that the class described as 'higher and lower grade professionals and administrators and higher grade technicians' has an advantage over both the intermediate and manual working class in terms of access to all three types of institutions (universities, former polytechnics, and colleges). Nevertheless, students from the former class background were more likely to take a degree course at that time in a university, than those from other backgrounds (who were more likely to attend a polytechnic or college).

The same study also found evidence to support the idea that people from less advantaged social groups tend to gain access to tertiary education later on in life. It showed that the proportions of students from an intermediate or working class background are much higher among mature students than those who entered tertiary education in the decade after leaving school. For example, among those completing a degree at former polytechnics, just over a fifth (22 per cent) of graduates under 30 were from the manual social class. This proportion rises to almost 38 per cent among those completing their degree after the age of 30 (Egerton and Halsey, 1993).[1] If this pattern continues, increases in the proportion of mature students are likely to be associated with changes to the social background of the student population. However, it is worth noting that the measure of social class varies for over and under 30 year olds (see section 3.6), which may influence these findings.

Even if the social class bias of entry to higher education persists, changes in the UK class structure mean that demand for higher education is likely to increase. The proportion of the population in the highest social classes appears to be increasing. Thus, the *General Household Survey* shows that among men, the two highest socio-economic groups (professionals and employers and managers) accounted for 22 per cent of men and 19 per cent of women in 1983. A decade later, these proportions had risen to 27 and 24 per cent respectively (Foster *et al.*, 1995, Table 2:12).[2]

There are also indications from a US study that mothers' occupational status has a positive and distinct effect on children's educational attainment (Kalmijn, 1994). For those born in 1960, the children of mothers employed in high status occupations had a higher probability of graduating from college than children of mothers employed in lower status jobs and those whose mothers did not work. The study also indicated that the influence of maternal occupational status on college graduation has increased in successive birth cohorts. Given that women's labour force participation has increased in the UK over the past two decades, as has their access to high level jobs, if the US results are applicable to the UK (as some of the research on parental influence suggests, especially some of the Scottish research), this would further contribute to the demand for higher education from young people.

Finally, a key determinant of whether an individual aspires to higher education is parental education levels (Rudd, 1987b; Redpath and Harvey, 1987; Burnhill *et al.*, 1990; Bennett *et al.*, 1992).The Burnhill study cited above, for example, showed that even when social class had been taken into account, the odds of an individual whose parents (both mother and father) were educated to age 17 or more gaining the qualifications required to enter higher education were double those of someone with one or both parents educated to age 16 (Burnhill *et al.*, 1990). The impact of parental education was confirmed in the Bennett *et al.* study for men only, although in this study parental education was measured using the level of education of the head of household and not both parents (Bennett *et al.*, 1992).

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[1] Chapter 3 contains a discussion of the social class and age of accepted applicants to higher education. It supports the findings of Egerton and Halsey's study.

[2] Changes in the class structure are another hotly debated topic in the academic literature. The general trend identified using the *General Household Survey*, however, is consistent with those identified in the *Censuses of Population* and the *Family Expenditure Surveys* (Marsh and Blackburn, 1992).

Both women and men have increased their level of educational attainment (for example, the expansion of higher education resulting from the Robbins report opened up opportunities for those now in their late 40s and early 50s), although growth has been particularly marked among women. This is likely to fuel demand for higher education among current 18 year olds and subsequent generations.

7.2.4 Labour market signals

The labour market can operate as a positive or negative influence on students' demand for higher education. On the one hand, limited labour market opportunities at a time of recession or for particular groups may encourage young people to remain in education, and older people to return to the classroom. On the other hand, declining job prospects for graduates may act as a brake on the demand for higher level qualifications (Smithers and Robinson, 1995; Williams and Fry, 1994, p.13). Sometimes these can be perceptions rather than reality, *eg* impact of newspaper headlines on graduate unemployment.

It is not clear which of these effects will dominate in the UK over the next decade or so. Evidence from other countries, however, suggests that higher education can continue to expand even in a context of relative decline in graduate employment opportunities.

Consistent evidence from both the US and Australia suggests that the labour market benefits of higher education persist even in the face of a considerable expansion in the number of graduates in the population. Studies in both countries have shown that while graduates from an expanding system do not necessarily do as well as previous cohorts in terms of monetary rewards and high socio-economic status, they continue to do better that their non-graduate contemporaries. There are a number of indicators of this including:

- **labour force participation rates:** in the US, men aged 25 to 34 with a college education have the highest rates of participation in the labour market (95 per cent). Among those who did not complete high school, participation falls to 85 per cent. The equivalent figures for women are 85 and 49 per cent respectively.
- **unemployment rates:** unemployment is also clearly related to educational attainment; only three to four per cent of US college-educated men and women aged 25 to 34 were unemployed in 1991, compared to 17 per cent of men and women

who did not complete high school (and almost ten per cent of men and six per cent of women with a high school diploma).

- **occupational distribution:** in the US, 57 per cent of bachelors degree holders work in professional and managerial occupations, compared to just 14 per cent of high school graduates and less than five percent of those who did not graduate from high school.
- **earnings:** the starting salaries of new US graduates fell in the early 1970s (after a period of rapid higher education expansion) and have since stagnated. Nevertheless, earnings trends in the 1980s showed that the earnings of college graduates increased in relation to those leaving education after high school. In 1979, male college graduates earned 33 per cent more than high school graduates, and female degree holders earned 41 per cent more. By 1990 these premiums had risen to 60 and 66 per cent respectively (Court and Connor, 1994).

These data from the US are reflected in a similar study in Australia. This shows that while the earnings power of graduates relative to all full-time workers fell markedly between the late 1960s and 1980s (a time of rapid expansion of the graduate population), graduates continue to do better in the labour market than non-graduates: their duration of unemployment is shorter, they are more likely to be participating in the labour market, and they receive more training. In addition, graduates continue to earn 1.3 times the salaries of the average employee (down from 1.79 in the late 1960s). The author of the study concludes:

> *'The educated maintain their relative advantage over the non-educated, while being educated in itself is no longer associated with earlier levels of social standing. It is clear why people continue to invest in education even while it no longer delivers as much as it once did.'* (Marginson, 1995, p.73)

One potential explanation for this is that as the supply of graduates increases, employers' practices change and the job prospects of less well qualified individuals worsen relative to those of graduates. That is, a degree becomes all the more necessary for access to a variety of jobs, and employers use higher education as a screening mechanism (see Court and Connor, 1994 study of the US graduate labour market for a fuller discussion). The implication of this is that even if current graduates' job prospects worsen relative to the opportunities available to graduates from previous years, the rate of return to higher education remains sufficiently high to ensure that demand is unlikely to decline.

7.2.5 Alternative routes

As noted in Chapter 6, Government policy is geared toward encouraging lifelong learning. This, coupled with a proliferation of alternative routes into higher education, aimed mainly at mature students, has contributed to an increase in participation among older people. In 1993/4, 24 per cent of entrants to first degree courses in England did not have either 'A' level or BTEC qualifications, a figure which had increased from 17 per cent in 1988/89 (DfE, 1995a, and DfE, 1994).

Of particular importance as a growing route into higher education are access courses. In 1994, almost seven per cent of accepted applicants to UK HEIs (on full-time undergraduate courses) had an access course as their main qualification. For the older age groups the proportion was much higher, with 36 per cent of 25 to 39 year old applicants entering via an access qualification (UCAS, 1994).

The expansion of access courses raises a second more general issue likely to increase demand for higher education. The further education sector has experienced substantial growth over the past few years. Even though much of this is accounted for by growth in full-time students doing GCSEs and other exams,[1] the number of students on courses giving access to higher education has also risen (especially GNVQs). Given that FE is already an important route into higher education (HEFCE, 1995a), if this expansion continues, it is almost certain to increase demand for higher education from the FE sector as individuals gain relevant qualifications. Many students entering HE via FE, however, will do so with 'A' levels and/or GNVQs (*nb* in Scotland they are more likely to have HNC/HND qualifications). This will have to be taken into account when assessing the impact of FE on the demand for higher education.

7.2.6 The higher education system

While improvements to access and publicity/marketing can stimulate demand, there are two attributes of the higher education system which may be factors in *reducing* student demand: the increasing proportion of costs which have to be borne by individuals and their parents, and perceptions of quality, *eg* overcrowding (Smithers and Robinson, 1995).

Again, conclusive evidence on the effect of these factors in the UK is lacking; in particular, how influential perceptions of rates of return among potential applicants in are affecting behaviour. There has been a 30 per cent rise in the number of students leaving higher education for non-academic reasons. This increase is twice the rate of growth in student numbers (CVCP, 1995b) and is viewed as being related to financial factors (though there is little evidence to support these views). Bennett *et al.* (1992) suggests that the rate of return to HE is sufficiently low

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[1] In previous years, many of these individuals would have studied in schools or sixth form colleges.

(at seven per cent) to make students and their families sensitive to the cost of taking a degree. It also points to earlier research which suggested that the decline in demand in the 1970s was related to the fall in the rate of return to HE, as the personal costs of staying on rose (with rising wage rates for young people), maintenance grants fell, and income distribution narrowed. The rate of return rose again in the 1980s, which may have contributed to the increased demand at that time.

Evidence from other countries, however, suggests that increasing the financial contribution required from families and individuals does not necessarily lead to a decline in demand for higher education. The US has long required substantial investment from individuals in higher education and yet has continued to have one of the highest rates of participation world-wide and continuous increases in enrolments. Increases have taken place in the USA when costs of going to university have been rising (up by over 100 per cent in the decade to 1989 when the consumer price index rose at a lower rate, by 64 per cent, Benjamin *et al.*, 1993a). There are, however, US public funds available for those from lower socio-economic groups. The US historical context may also be significant in that if families are aware that they will need to contribute to the cost of their children's education, they will have the opportunity to begin saving relatively early on. This context is different in the UK, and parents have not necessarily expected to contribute substantially to the costs of higher education. Their ability at short notice to finance part of their children's time at university may therefore be affected.

The recent Australian experience of introducing in 1989 a contribution scheme for students to pay a proportion of their course costs (to repay later in tax, once incomes rise above a certain level) was met with initial protest but does not appear as yet to have had the effect on dampening demand that was initially forecast. Expansion in higher education continued and the socio-economic profile has not altered. However, the injection of increased funds to the Australian higher education from this source has brought about expansion during the 1990s for all participating groups as more places became available, and competition lessened. Also, the end of the 1980s when the student contribution scheme was introduced, was a time when access to universities from lower socio-economic groups was declining as demand for places had been increasing (Long, Carpenter and Haydon, 1995). This is the reverse of the situation in the UK and so the comparison is not directly relevant.

These examples suggest that requiring students to contribute to the cost of their education does not automatically lead to a reduction in demand for higher education. Other countries' experiences are not directly comparable to the UK and conclusions are drawn with caution. Any effect of increased contributions by individuals will also depend to a great extent on how they are introduced.

Overcrowding, and its capacity to reduce the quality of students' experiences of higher education, is a second factor which may reduce student demand for university courses. Again, evidence of any effect of this in the UK is not yet available.

7.2.7 Summary

Many indications point to an increasing demand for higher education from the current range of students, though there is likely to be slower growth from young people in academic routes unless participation rates among lower social classes improve. There are a number of issues about the continuation of existing trends. The uncertainty about the educational attainment of young people, in particular the possible plateauing of the growth in staying-on rates, and the Dearing proposals to develop a new awards framework to give equal status to vocational, applied and academic qualifications, is one issue. Another is labour market and employment opportunities, while a third issue relates to perceptions of the financial returns from higher education.

Within this overall trend of continuing rising demand, however, there is widespread recognition that future increases in participation in higher education will be driven by the needs of an increasingly varied student population. Not only will the composition of the student body change, but trends in access to higher education are likely to intensify existing pressures to modify the provision of higher education to take account of the needs of those who may not have sought high level qualifications in the past.

7.3 Future scenarios

We saw above that there are many factors which determine university student numbers, some of which are based on wider trends in society, *eg* demography, attainment levels in secondary education, student aspirations. Others reflect policy on provision, such as government policy on the number of places, and individual university initiatives in creating and filling places. Finally there are a number of external 'shocks' that may impact in the future, such as the possible introduction of a form of student loans and/or direct payment of fees, or a major change in economic conditions which increases or decreases the relative attractiveness and rates rate of return to time in higher education.

In the following sections we look at the possible changes in student numbers over the period to 2005, using statistical modelling which builds on the available data about past trends together with a range of assumptions about future trends. The model focuses on potential student numbers, it assumes no funding or capacity constraints, nor does it take account of potential 'shocks' to the system which, by their nature, are not predictable in their timing or impact.

In the event, the data we have been able to use has proved to be more limited than we expected. The changes in higher education, and the consequent changes to classification systems, and the merging of the statistical data collection agencies have meant that continuous, detailed time series data has not been available for the period since the late 1980s.

The key 'input' variables we have been able to use are:

- projected changes in the size and age structure of the population
- estimated changes in the social class composition of the relevant age ranges
- historic qualification and social class patterns among first degree full-time entrants
- trends in the numbers of postgraduates
- trends in the participation of women
- trends in the numbers of EU and international students
- trends in the numbers of part-time students.

(Details the characteristics of the model and more data are available in a separate Appendix from IES.)

The assumptions tested below have been chosen on the basis of past trends, assessments of likely potential future changes, and the availability of relevant data. It is not possible to feed specific policy issues such as changes to student finance, or to the nature of 'A' levels and Scottish qualifications, and the introduction of GNVQs into the model. These first have to be turned into quantitative assumptions, *eg* a percentage change in participation rates and/or drop-out rates. Unfortunately, insufficient data were available to model the changing proportions from ethnic minorities, and it was not possible to find data that distinguished CPD among other postgraduate and part-time students.

In looking at potential changes in student numbers it is important to remember which groups comprise the overall student population. We saw in Chapter 3 that full-time, first degree students dominate the numbers (over 800,000) while full-time postgraduates account for another 130,000. Almost half of the full-time students are aged 21 years or over. Women now account for 49 per cent of all home students. About ten per cent of students come from the EU and other countries. There are over 400,000 part-time students, almost 40 per cent of which are postgraduates (and mainly on taught courses). Emphasis is given below to the full-time first degree UK population, partly because this is where the best data are, and partly because this is the most stable part of the system; *eg* the numbers of taught postgraduate courses have been growing at over ten per cent per annum and this growth, if extrapolated, would give a massive but unlikely increase in student numbers. A further rationale is that the factors influencing UK student entry to first degree courses are better understood and more evolutionary, and as such are amenable to modelling.

We now look at how the numbers in each of these main groupings might change over the period to 2005, before aggregating the results to give some potential scenarios as to the overall size of the student population.

7.4 Full-time first degree entrants

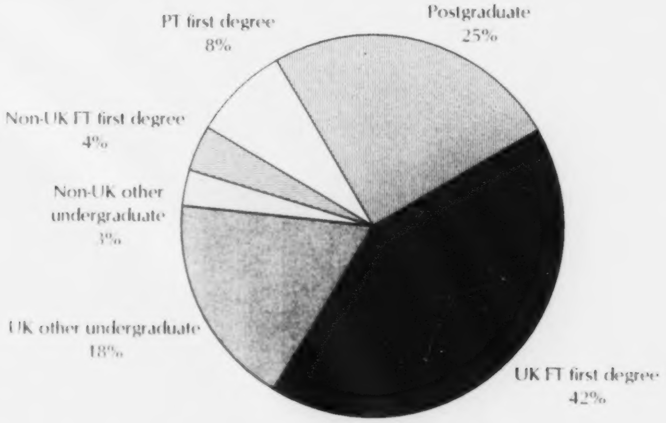
There are two main groups who have driven this number in the early 1990s: young UK entrants along with the smaller number of mature UK entrants aged over 25. There have also been a small number from the EU and other countries, representing under ten per cent of the total entrants (Figure 7.3).

7.4.1 UK entrants

For our base projection we have modelled the effects of:

- official projections of changes in the size and age structure of the population, plus
- IES estimates of the associated changes in social class structure.

Figure 7.3: First year students by level and domicile, 1994/95



Source: IES/HESA December 1994 Standard Population

Our **base projection** is that the effects of demographic and social class structural trends means that the number of home first degree entrants would rise from 276,000 in 1994, to a plateau of around 346,000 between 1999 and 2003, with a final rise to around 358,000 in 2005.

This represents an annual average increase of about five per cent to around the year 2000, it then stabilises for a few years and growth then resumes (Figure 7.4). This level of growth over the next decade compares with a much higher rate of approximately 70 per cent in total over the last decade.

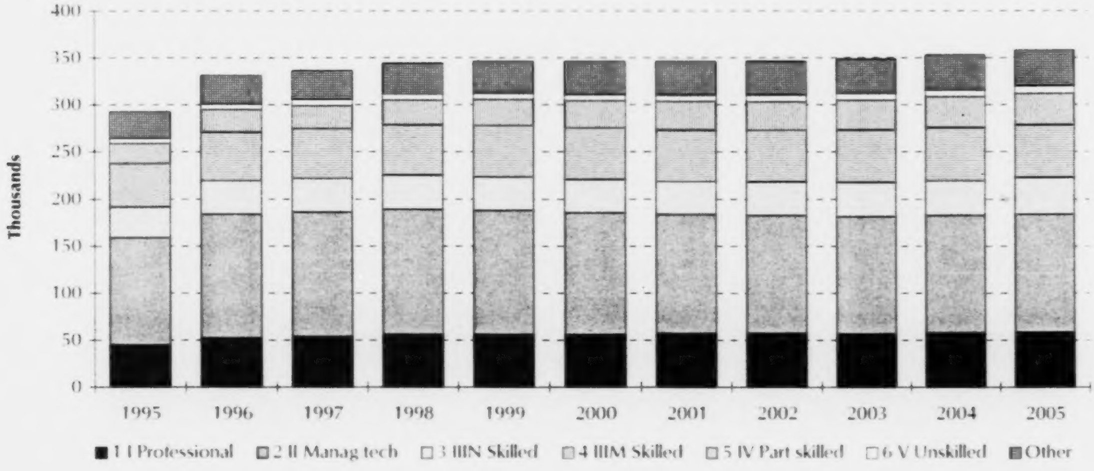
7.4.2 Key sensitivities — UK entrants

Since there are different entry probabilities for different social classes, age groups and entry routes, the impact of possible changes in the base trends can be modelled as follows.

Social class

- The first variant is a one per cent per annum increase in entrants from social classes III M, IV and V (Skilled Manual, Partly Skilled and Unskilled). During the early nineties this was an observed pattern, which might have been due to the recession reducing alternative options, but it could also become a longer term trend. This would generate 9,400 more entrants by the year 2005. Since these social classes are more likely to enter via a 'vocational' route, this scenario would also have the impact of increasing the numbers entering via the 'vocational' route by 13.5 per cent compared with an increase in the 'academic' route of 2.5 per cent. (See Figure 7.4.)
- With the increasing professionalisation of the economy it is possible that there could be increasing participation by

Figure 7.4: Base projection UK first degree new entrants by social class, 1995 to 2005



Source: IES

entrants from social class II (Intermediate professional). A one per cent per annum increase in entry from this social class would generate an additional 12,500 entrants by the year 2005.

- During the recovery from the 1980 recession there was a one per cent per annum decline in the entry probabilities by those from social class I (professionals). If alternative opportunities emerge it is possible that this pattern could be repeated. In this case the consequences of a one per cent per annum decline in entry by social class I would be 5,800 fewer by 2005.

Educational route

- With the growing emphasis on vocational qualifications within secondary education, the existing trend of increasing numbers with vocational qualifications as their entry qualifications is likely to translate into increasing numbers entering via that route. A one per cent per annum increase in entrants using the vocational route produces virtually the same increase in entrant numbers as the increasing participation by social classes IIIM, IV and V, namely 9,800 more entrants by the year 2005.
- By comparison a one per cent per annum increase in the numbers entering via the 'academic route' would lead to a increase in overall numbers of 26,000 by 2005.

Mature students

- A further scenario examines the impact of a one per cent per annum increase in participation by mature students, those who are 21 years and over. This scenario generates an extra 8,400 entrants by the year 2005.

Women

- The rate of improvement in attaining qualifications among girls has exceeded that of boys at both GCSE and 'A' level and their participation rates in higher education having also been growing fast. If women had the same entry probabilities as men, this would lead to a further 1,800 entrants by 2005.

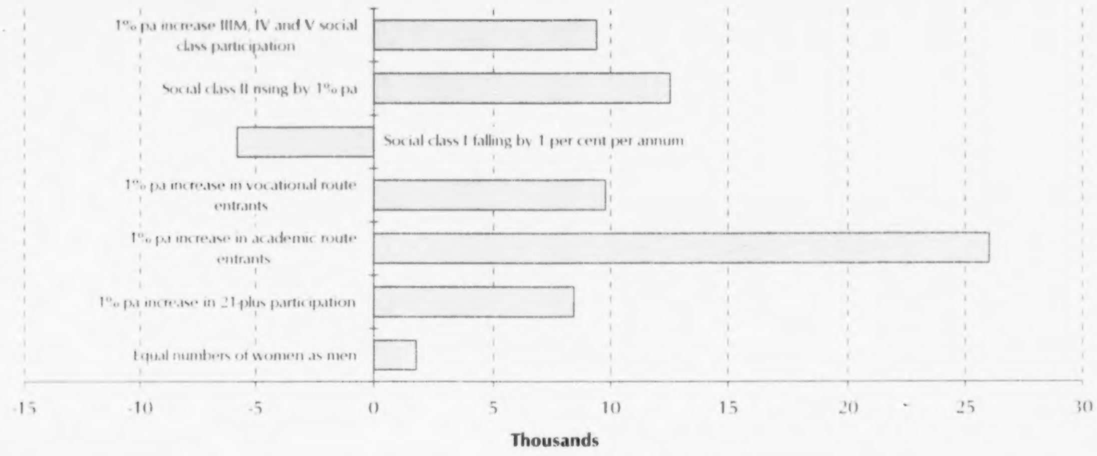
Other scenarios

- A further possible scenario incorporates elements of the first two, a one per cent per annum increase in participation by social classes IIIM, IV and V, plus a one per cent per annum increase in vocationally qualified entrants. This scenario generates an extra 19,470 entrants by the year 2005.

The results of these scenarios are summarised in Figure 7.5.

These various scenarios indicate that the overall numbers of entrants to full-time first degree study are not exceptionally sensitive to the main likely developments leading to increased

Figure 7.5: UK entrants to full-time first degrees — key scenarios



Source: IES

participation. The principal variable is the now increasing number of 18 year olds, and within that the numbers of 18 year olds from the higher social classes.

Increasing entrants by ten per cent

An alternative approach is to ask the question 'what would be needed for numbers to rise by *x* per cent'. Here we look at the types of changes needed to increase entrant numbers by 10 per cent (33,000) by the year 2005. This could happen due to a combination of the above scenarios to give a range of options including:

- a further 1.5 per cent per annum increase in entrants via the academic route. This would require a mix of improved staying-on rates, 'A' level pass rates, and propensity to go to university. This in turn would probably require a perceived improved 'rate of return' to university study, a factor that will be influenced by economic conditions and the student funding regime.
- a further three per cent per annum increase in mature entrants. This would also probably require a perceived improved 'rate of return' to university study, a factor that will be influenced by economic conditions and the student funding regime, as well as improved access arrangements.
- a further major increase of nearly four per cent per annum in the numbers entering from the skilled manual, partly skilled, and unskilled social classes
- a further two per cent per annum increase in the participation of women, or
- other combinations of the above scenarios.

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7.4.3 EU and international entrants

In addition, there were a further 13,000 entrants to full-time degree courses from the EU, and 15,000 from other countries in 1994. There are many factors that influence their numbers, including marketing initiatives by UK universities, relative costs, and quality and attractiveness of HE in the UK as compared with other countries. A number of 'developing' countries that have been a source of recruitment to the UK are also now building their home provision, which may restrain the demand for UK places. If the current growth rate continued, which seems unlikely, then the total would rise from 28,000 to 178,000 in 2005. Using the base home projection, this would mean international students representing as many as one in three of the total, again an unlikely scenario. A precise projection must be a matter of speculation and personal assumption, and as such is not amenable, given current data, to serious modelling.

7.5 Other entrants

7.5.1 Other undergraduates

In addition to the first degree students there were also a further 62,000 entrants to other undergraduate full-time courses, mainly HNDs, in 1994.

Looking ahead, we have projected the numbers of 'other undergraduates' by reference to demographic trends and expected social class changes, in line with the approach for first degree entrants. This shows that in the base scenario the number of **UK entrants** to 'other undergraduate' full-time courses would rise from 46,000 in 1994 to 62,000 in 2005, with the growth being driven mainly by the rising numbers in social classes III, IV and V, who provide the main source of participation to entry at this level.

In addition there were a further 16,000 entrants from the **EU and overseas** in 1994 to other undergraduate full-time courses. If their rapid rate of growth from 1988 to 1993 was maintained, then the total would rise to 119,000, involving a particularly rapid rise in students from the EU. Again a precise projection must be a matter of speculation and personal assumption, and as such is not amenable, given current data, to serious modelling.

7.5.2 Postgraduates

The historic data sources covering postgraduate student numbers are poor and it has not been possible to draw any linkages with other input variables. For example, the numbers completing first degrees do not relate to those entering postgraduate study, as there are clearly many students who enter at postgraduate level a year or more after their first degree.

This means that we have had to rely on extrapolations of historic trends for this part of the model.

In 1994 there were 90,000 entrants to postgraduate **full-time** study, of whom one in five were research students, and the majority were studying on taught courses. The historic growth in numbers in each group has been rather different, up by seven per cent per annum and nearly ten per cent per annum respectively, and they have been modelled separately. EU and international students account for about one-third of the postgraduate full-time entrants.

If we project the number of postgraduate entrants to grow at the rate they did in the period 1988 to 1993 then the overall numbers of entrants would rise from 90,000 to 235,000, driven primarily by the rapid growth in entry to taught postgraduate degrees. Again, this seems an unlikely rate of growth, especially given that the rate of growth among first degree graduations has slowed considerably. A precise projection must be a matter of speculation and personal assumption, and as such is not amenable, given current data, to serious modelling.

7.5.3 Part-time students

There were 200,000 part-time entrants to undergraduate and postgraduate study in 1994, about one-third postgraduates, one in four on degree courses, and 35 per cent on 'other undergraduate' courses. The historic data sources covering part-time students are, unfortunately, poor. As a result this part of the model has been based on two components.

First, the numbers entering first degree and other undergraduate courses are projected as a fixed ratio of first time entrants, thus taking account of demographic, social class and qualification attainment changes. This gives a base projection of numbers rising from 125,000 in 1994 to 184,000 in 2005, an increase of 47 per cent.

The second, for postgraduates, is based on an extrapolation of recent trends. This gives a base projection for a rise from 73,000 to a massive 340,000, reflecting the very rapid historic expansion (over 17 per cent per annum) in entry to part-time taught postgraduate courses, again a trend that seems unlikely. Again a precise projection must be a matter of speculation and personal assumption, and as such is not amenable, given current data, to serious modelling.

7.6 Overall student numbers

The overall first degree student numbers have been derived from the number of entrants, together with a composite ratio to take account of drop-outs, changing course duration, and students repeating years. The data on these factors are poor and it has not been possible to disentangle the separate effects of variable course lengths (a growing but unknown proportion of courses are moving to four years in duration, while modularisation adds further difficulties), the apparently rising drop-out rates and numbers repeating years as illustrated in the case studies.

Throughout the late 1980s and early 1990s the total number of students was approximately 240 per cent of the total entrants. If we assume that this ratio remains constant then the UK domiciled student population of full-time first degrees would rise from just over 700,000 to 860,000 over the next decade, an increase of just over 20 per cent.

There are no accurate data about drop-out rates, but estimates suggest it averages around 20 per cent. If the drop-out figure were to rise by five percentage points (as seems likely from overseas evidence of mass HE systems) then this would reduce overall student numbers over the next decade by about six per cent or 80,000 overall.

It is not appropriate to project a picture of total enrolments among EU and international students, nor those on postgraduate courses or studying part-time, as the data are poor and the only benchmarks are the rapid rates of growth of the late 1980s/early 1990s. Were these historic rates of growth to continue, then they would add up to another 1 to 1.5 million students over the next decade.

These changes, in particular at undergraduate level, have implications for the student composition, in particular the growth of adults and students coming via the vocational route. By 2005, it is projected that 30 per cent of new entrants to first degree full-time courses will be 21 years or over (up from 28 per cent in 1994), and 27 per cent of all new entrants will come via a vocational route. The baseline projections suggest also that the API figure for young people will remain around the 33 per cent mark for the foreseeable future. A higher figure is only likely to be produced, such as the 40 per cent figure suggested by the CVCP last year, if the social class mix changes and lower social classes participate to a greater extent in higher education.

7.7 Summary

This chapter has shown how the demand for higher education from students has been increasing in terms of application levels, but that growth trends have varied between universities and by subject. There are breaks in the time series which make it difficult to be precise about longer-term trends, and there are not sufficient data to look at recent trends in parts of the sector separately. The available evidence, nationally and at an institutional level, suggest a slowing down in the growth in student demand which is likely to continue for the foreseeable future. There are, however, considerable differences at an institutional level in current demand for places, and within institutions between subject areas. These reflect differences in academic reputation and profile, access policies and nature of provision.

It is clear that future demand for HE is going to come from a more diverse population. A number of influences are likely to affect future demand, some of which are inter-related. The more significant changes are likely to be:

- growth in the 18 year old population after a period of decline
- changes in the social class structure of different age cohorts
- changes in educational routes and qualifications.

The available data do not make it possible sensibly to model likely future scenarios for all groups of students and all parts of the system. The focus of the modelling exercise has been on UK full-time entrants to first degree courses. They currently make up the largest single group within HE (over 700,000).

On the basis of current patterns of participation, and taking into consideration demographic and social class structural changes, growth in UK entrants to full-time first degree courses is likely to increase modestly, by about 25 per cent over the period to 2003, with most of this growth coming before 2000. If international students are included in the total, then based on recent participation trends which have been historically high, the percentage growth is likely to be greater. The projected UK full-time degree entrant trends are not exceptionally sensitive to other changes such as changes in education routes or changes in the gender balance.

There is also likely to be significant expansion of full-time students on postgraduate and other courses, from home and overseas, and part-time undergraduate and postgraduate students, but the data on past trends are not good enough to project sensibly their number into the future.

Overall, then, there is likely to be significant expansion in student numbers over the next decade, albeit at a slower rate than in the previous decade. The precise level and pattern will be determined by factors within the universities, in particular their ability to make changes to provision and delivery to meet the needs of future students, as well as external factors beyond their control.

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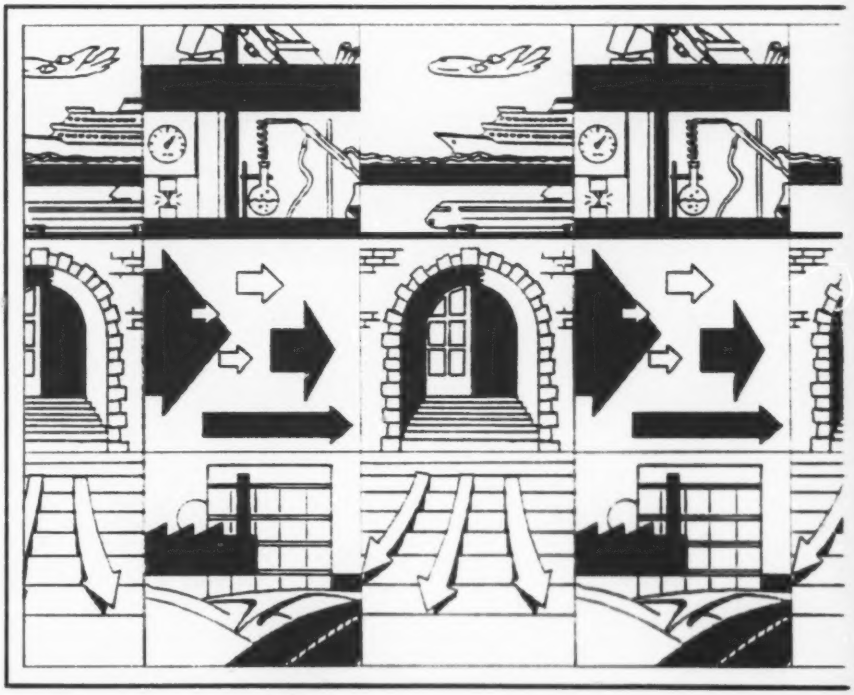

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